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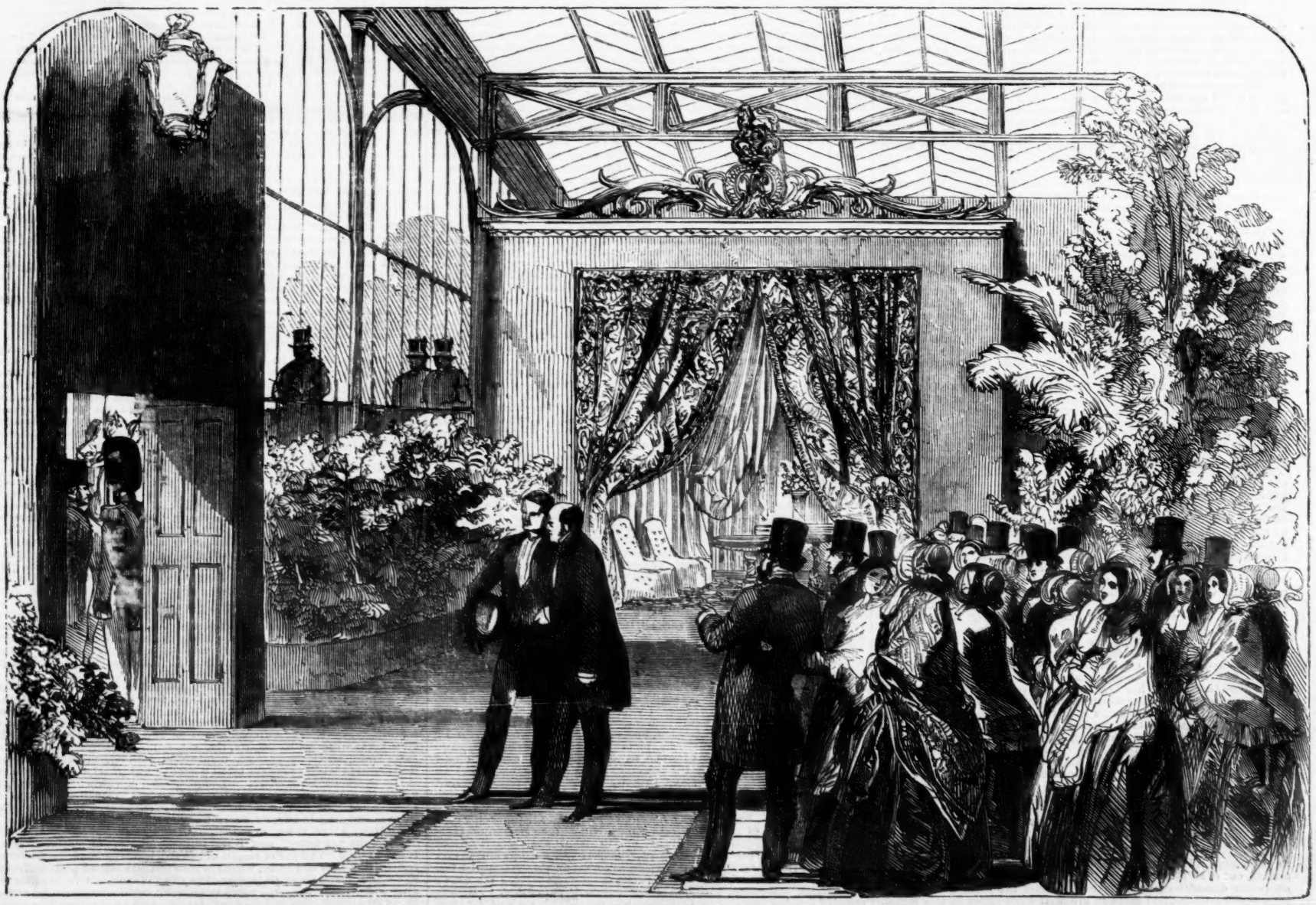
THE GREAT EXHIBITION.

GENERAL AND MISCELLANEOUS MODELS.

The art of modelling, as applied to landscape, is one which we believe to be susceptible of more improvement and more advancement than is generally considered possible. It has never yet been treated as an art, and it has been in general only pursued as a matter of individual whim by scattered members of that ingenious body of amateur wielders of their fingers who are continually producing specimens of that class of nondescript articles which we admire for their ingenuity, and very often not the less for that ingenuity having been singularly misplaced. The tribe of industrials to whom we refer are the cunning workmen who love to astonish the world by constructing either anomalous objects, or commonplace objects made of anomalous materials. One genius will arrange shells into the shape of fruit or flowers. Another—and he has sent his work to the Exhibition—will construct such a monstrosity as a ship fully rigged—her ropes, sails, and spars all cut out of cork. Again, we shall have a cunning workman carving wonderful things out of pith, or shaping a lamp, which is the rapturous admiration of the neighbouring provincial journal, out of a turnip. Anon, we find a man devoting his life to writing the Lord's Prayer and the Ten Commandments within the compass of a fourpenny bit; while his neighbour in these unappreciated arts sends up to the Queen, as an appropriate present, a walking-stick, carved all over with the figures of the Zodiac, or a scene from "Paradise Lost;" or, perhaps, a wonderful watch, containing a snuff-box; an almanack; a set of toothpicks; directions for the preservation of health; and a fleam for bleeding horses. Any attentive reader of the newspapers—and who is there who is not?—will recognise in a moment the class of nondescript ingenuity to which we refer. The neat-handed monstrosities thus produced generally attain an immortality of a fortnight or so, while the laudatory paragraph goes the rounds, until they are supplanted by some more recent and even still more wonderful intelligence touching an enormous gooseberry, or a shower of frogs, in a remote district of England. Now, what we want to enforce is, that modelling as applied to landscape, or to those degrees of the art which lie between raised map making on the one hand, and the representation of rocks and ruins and trees upon the other, has been in general only pursued by the class of nondescript industrials whose master-pieces we have characterised; and the natural consequence is, that the art, in its ordinary manifestations, is in a state of utter debasement and tasteless rudeness. Of this the Exhibition affords several curious proofs; amongst which we may mention at once a model of Tynemouth Priory and rock, which would have disgraced a sugar baker, and a model of a grand allegorical procession of the Shaksperian characters



WAITING HER MAJESTY'S ARRIVAL.

The above Engraving represents the waiting-room erected for the reception of her Majesty near the North entrance of the Building, having particular reference to the surrounding group of anxious spectators, on the occasion of the inauguration of the Crystal Palace, on the 1st of May. This elegant little apartment is chiefly composed of rich tapestry, the interior being lined with pale light blue and white silk, fluted. The furniture is of a very costly character, combining lightness of appearance with splendour of effect. The sofa and chairs are carved and gilt, and covered with light blue silk damask. The carpet of rich Brussels, is a flowered pattern. Flowers, tastefully disposed, add a pleasing and lively effect to the picture. In the rear of the principal room is a smaller apartment, separated from it merely by a draped partition, in which is a handsome cheval glass, in a gilt frame and stand. Crowds of persons daily the[illegible] to view this little *bijou* of a boudoir, at a respectful distance however—a cordon being drawn around it, guarded by a policeman.

round the Stratford-on-Avon house, which, however well-intentioned, is, in point of art, one of the rudest and most Gothic productions we ever gazed at. The Exhibition, however, gives specimens of the art as promising as these are discouraging—specimens which confirm us in our opinion that great and very useful things may yet be accomplished by this means, and that it is calculated to be of essential service to the geographer, while it may also develop a new but perfectly practicable branch of art—that of representing landscape upon uneven surfaces, and copying the effects of nature, not merely by means of light and shade, and colour, but by actually imitating in plastic material the inequalities and roughnesses of the country to be represented. Perhaps the most practicable mode of proceeding in this matter is to adopt the bird's-eye system of treating a landscape, the effect being to enable the artist to represent the major portion of the objects which he imitates of the same general size. The difficulty of modelling a landscape in which the foreground should be constructed upon a large scale, and the effects of foliage, for instance, adequately represented, contrasting with the middle and extreme distances, would, we fear, be insuperable. One or two attempts at it, exhibited principally in the German and Swiss departments, are wretched failures, hardly entitled even by courtesy to the name of works of art at all. A very different result, however, is obtained when the bird's-eye system has been resorted to by competent artists, both in the case of that marvellous urban model of Liverpool, and the not less marvellous, country and marine model of part of the back of the Isle of Wight. The bird's-eye principle is simply that of applying the map, or geometrical method, instead of the art or perspective method, to a model picture; and it is in the nice degree to which the one mode, with its picturesqueness, may be brought in to illustrate the minute accuracy of the other, that the perfection of this system of representing nature is to be sought. We want neither a map nor a picture, but something between the two—something which shall give us a real and ingenious representation of what we would see if elevated some hundred feet in the air, and overhanging the spot represented. The advance we have been recently making in this species of art is testified by the introduction of these clever half-map, half-landscape pictures of cities, called by their French originators views "*en ballon*." Adopting the guiding principle of art as shown in these engravings, if we substitute the modelling tools for the pencil, and represent projecting and treating surfaces by means of solid material, we shall be realising a useful and ingenious method of miniature imitation, which as yet seems in its infancy. We have alluded to the view of the back of the Isle of Wight, contributed by Captain Boscawen Ibbetson, as a very favourable specimen of the correct application of the principle for the extended use of which we are pleading. Indeed, in many respects, the work seems perfect, and the illusion produced when gazing through the lower glass is equal to many a highly-puffed dioramic effect.

This very fine model is placed in the western part of the Nave, not far from Liverpool. It represents the coast line of the back of the Isle of Wight; the long double line of cliff surmounted by the swelling and rolling table land, which constitutes the higher general surface of the island. The spectator is supposed to be at sea, perhaps half a mile from the shore, and elevated to some height above the water. Moving, therefore, along the model, he sees a wondrously exact representation of what a sailor would see perched upon the topgallant mast of his ship, as in a calm day and summer weather she crept along the coast. The view extends from Shanklin along the south-westerly shores of the island, the scattered hamlets, cottages, and churches being represented with the greatest care and accuracy, and their proportionate size strictly observed. To teachers of geology, models constructed upon this principle would be invaluable. They would be able to demonstrate, with the greatest convenience, the formation and geologic set and features of the district in question. They would remark, for example, the peculiarity of the formation of the coast line, which would apparently go to show that the sea had at one period flowed at a far higher level than at present, the phenomena being indicated by the fact that there are, with some accidental breakages, two distinct ranges of rocky declivity, one above another, the higher presenting exactly the same peculiarities as the lower; so that the sailor who might land upon the beach with the intention of getting to the top of this island, would first have to scramble up a steep rocky acclivity, and would then find himself on an undulating belt of ground, rising not so steeply but ranging backwards; while above it another stony ascent, of precisely the same form and appearance as the first, leads again to a renewal of the swelling, arable, or pasture country, in this instance forming the table-land of the island.

Looking along the model, we perceive that it is the middle belt of gently rising and undulating ground which is the most densely peopled and highly cultivated. Gentlemen's mansions, large farm buildings, clusters of cottages, and small isolated dwellings, nestle snugly in the little ravines and in the hollows of the slopes, and behind the sheltering knolls and irregularly running hills which form this pleasant belt of fertile land. The whole of it is enclosed; and any farmer from this part of the island might point out each of his own fields, exactly represented by the skill of the artist. The care and effect with which the face of the country has been represented in its natural colours is very striking. The dark and tangled appearance of coppice and brushwood is very happily imitated. You see vegetation of the kind clinging round and clothing the rocks, and filling up the scars and rifts in old quarries and precipitous banks of stone. In the arable ground again the bright green of the meadow is carefully distinguished from the pale yellow of the corn field, and both are represented in quite different fashion to the dark greenish brown expanses of the Downs, above the topmost line of cliffs. The shingle and the beach, too, are capitally managed; the effects of successive patches of sand white and glistening, beds of grey shingle and low lying ledges of rock, littered with masses of dark green sea-weed, being all given with great taste and skill. In the same way rugged and uneven surface is represented partially by asperities in the surface of the model, partially by very clever painting in the dotty, blotchy style, the brush apparently dabbed hither and thither with reckless freedom of hand, but the effect altogether being marvellously real.

Near the view of the Isle of Wight is another and a remarkable model picture, partaking, however, more of the map than of the landscape nature—depending more upon geographical science than upon artistic decoration and imitation. We allude to the raised map or painted model of what may be fairly called "Midland England." The representation delineates about 3000 square miles of country, including the whole or great portions of Nottingham, Leicestershire, Derbyshire, Yorkshire, Lancashire, Cheshire, and Lincolnshire. In a work upon the very small scale on which it is obvious it is necessary to proceed in producing geographical models of great masses of country, only the bold and broad features of the district can be represented. The eye, instead of being arrested, as in the Isle of Wight, by steep and craggy banks—by the precipitous sides of rivulets—by the continuous division of the country into meadow, and corn field, and orchard, and garden, only follows the great chains of the hills, notes the lie and the communication between the valleys, traces the rivers up from their slow and useful course in the level country, to their head waters among the hills; notes, too, what unerring monitors these rivers are to the road-maker and the engineer, and how clearly, except in the cases where they flow zig-zag fashion, in an absolutely level country, they point out the natural and obvious courses of communication. All these things are made far more manifest upon a raised picture of this sort than on a map of three or four times the size. The eye catches the disposition and character of the country at once, and the geographical or topographical impression left is the more lasting, as it has been the more vivid. The whole of the peak country of Derbyshire shown in this model is exceedingly interesting. The imagination kindles with the representation of the sharp ridges, the high-peaked hills, the deep hollow glens, the wide expanses of the correys, and the close and dark ravines and gorges among which spring the head-waters of the Mersey on the one side, and the Trent on the other. The picture is certainly not picturesque in itself, and yet it rouses strongly the feeling of picturesqueness. The mind at once leaps to the reality from the strong *point d'appui* given to it by the miniature representation, and you can feel what must be the beauties of those glens winding far up into the wilderness of the Derbyshire hills, and the glories of those rivers, the five, for instance, which unite near Sheffield—

Five rivers, like the fingers of a hand,

as Ebenezer Elliott wrote, and form one deep and solemn rolling stream, out of as many fierce and unbridled mountain torrents. The enormous difficulties which must have beset the construction of the Manchester and Sheffield Railway are well exemplified in this model. You trace the line running with curious accuracy along the most level bottoms of the glens, making its way from one valley to the other, through the narrowest necks of intervening obstacles, and, in spite of the difficult nature of the country, only plunging once into a very long and dreary tunnel. This excavation is, we believe, more than three miles in length. It was begun simultaneously at each end; and so exact and scientifically perfect was the progress of the workmen, that the two parties met exactly in the centre of the intervening hill. In the model before us, no houses are, of course, introduced; but small projections might have been employed to convey the notion of the towns, of which there are not less than 47 represented. Altogether, the work is a highly creditable one, and we doubt not but that it has given distinct topographical notions to many a spectator whose ideas upon the subject were previously anything but satisfactory. The model attracts great attention. Embracing, as it does, so considerable and important a portion of England, a great many visitors are pleased to recognise their own towns and villages; and the delighted exclamations relative to this river, that road, this canal, or that hill, showed how correct the work must be to be pleasing and satisfying to so many local critics.

The next model to which we wish to call attention is one of quite a different nature, and belongs only to a department of the art which has been long and naturally practised, requiring very little artistic skill in its construction, but still useful as conveying a clear notion of the thing to be represented. Models of works of skill, it is evident, present none of the difficulties inherent to models professing to delineate natural objects. What man has made upon a large scale he can make upon a small scale, while the effects of distance and the necessity for realising a pictorial representation may be at once dispensed with. The model in question is that of Plymouth Breakwater. It is constructed of limestone and marble—the limestone so roughened and moulded as to represent the sea—the marble doing duty for the gigantic wall opposed to its fury. The work represents the Breakwater as doing its duty in a gale of wind. On the seaward side the waves run high, here and there making a clear breach over the obstacle, while behind it the water is comparatively calm, and only disturbed, as it were, by sympathy with the heaving waves beyond the barrier. The Plymouth Breakwater, as many of our readers are aware, although commenced in 1812, is yet very far from being finished. Upwards of £1,500,000 have been spent upon it, and nearly four millions of tons of stone have been flung into the sea. There seems, indeed, to be no likelihood of an end to the work. Hardly a heavy gale which sweeps up Channel which does not undo some portion of the work of construction. The force with which waves run was never more strikingly illustrated than in the progress of this great work. It is, indeed, even said that the Breakwater is now further up the Sound than it was in its original position—that the sea is continually flinging huge masses of stone, some of them weighing as much as from three to five tons, from the outward to the inward slope—so that the ocean is actually and literally buffeting back inch by inch the obstacle opposed to it. The outward shape of the model exhibits the angle found by experience to be the best in resisting the attack of waves. The sea wall slopes gently, with one foot of descent to five of breadth—the result being to break the body of a rolling sea and render it innocuous, without anything like the severe shock between it and a perpendicular or nearly perpendicular body opposed. Small sections of the work are exhibited, showing that the Breakwater is a deposit, not a construction, and that the blocks of limestone and masses of concrete, of which it is composed, have been merely dropped into their places from lighters anchored above. The central bulwark of the mole is about 1000 yards long: the two flanking portions, extending at a blunt angle back from the main structure—so as to form a sort of inward bay—are each 350 yards long; and within the shelter thus provided it is calculated that upwards of 60 line-of-battle ships could find refuge. The model is an extremely interesting one—as showing the present condition and uses of a great national undertaking—only second in extent to the vast mole, or *digue*, nearly opposite Plymouth, at the mouth of the harbour of Cherbourg, the constructing of which is one of the great monuments of enterprise and boldness left by Napoleon to France.

Passing still further to the west, we come to another model—the celebrated one of Liverpool—certainly one of the lions of the Exhibition, and which is always surrounded by a ring of admiring spectators. To this work we have already directed attention, but viewing it in a light different from that in which we are now considering the subject. The work is altogether one of the most remarkable efforts of ingenuity of its kind ever attempted. It belongs to the category of models most easily executed, as being representations of artificial, not natural objects; but its great elaboration, the mass of minute detail lavished upon the houses and shipping, and the continuous skill with which the different classes of buildings are represented—the dirty houses of the crowded lanes and alleys, the bright and ornamented appearance of the lines of shops in the great thoroughfares, and the quiet and stately aspect of the more retired and fashionable streets, all this proves the application of immense and skilful labour, directed by a great deal of ingenuity and method. We recommend the visitors to the model of Liverpool to go at first to either end of the work, and observe the effect of a general glance over the whole. It is exactly as if he stood upon a hill or a high steeple, and looked down upon the city. The illusion, in fact, is as striking as that in the model of the Isle of Wight. He may imagine that he is gazing upon the outspread, streets, squares, and docks, in the early brightness of a summer dawn, before the town has become canopied with its usual pall of smoke, and ere yet the moving masses of population attract the eye, and introduce a new element into the scene. An admirable painting of Liverpool *en ballon*, could be made from its model. The eye ranges from street to street, and block to block of building, and scans with a curiosity, which is never left disappointed, the wonderfully minute details of building and architecture. The very chimney-pots seem to have been represented; while the straggling and meanly-built suburbs, with their long lines of paltry one or two-storied cottages, broken every now and then by timber-yards and gas-works, and factories of all descriptions, have quite another character to that displayed in the piled and stacked masses of lofty building, which form the crowded centre of the town, and down into which the deep narrow streets seem to have been sank, like ditches or ravines in the surface of stone and mortar. The illusion is kept up, too, by the great care and skill bestowed upon the models of ships in the docks and in the river. These little vessels are masterpieces of mechanical handicraft; and it may be observed that their rigging is invariably technically correct, and that specimens of craft of all possible classes frequenting the Mersey have been introduced—from the flat which voyages up the stream to Runcorn, to the Yankee crack packet-ship—from the Woodside or New Brighton Ferry steam-boat, lying alongside the new floating jetty, to the last constructed ocean steamer of the Cunard or the Great American line. Another happy idea was the representation of water not by a blue-painted surface, as is the case in the Isle of Wight, but by plates of slightly-dimmed mirror, into which the models of ships have been neatly inserted. A slight objection, founded, however, only upon recollection, occurred to us as to the lay of the ground. We thought the site of the town made rather too flat, particularly in its eastern expanse, which climbs to the ridge of a hill, the slope of which towards the water is covered with the busy streets of the northern mercantile capital. However, this may be a point in which we, not the modeller, are in fault; and even if in this respect the work be not completely accurate, it is still a noble specimen of persevering ingenuity, and a realised picture, probably unequalled in the world, of a great and many-featured city. Among the spectators we remarked many foreigners, who lavished all their surprise and admiration upon the docks and the endless arrays of shipping. The expression continually repeated in various tones of admiration, envy, and astonishment—"*Mon Dieu! quel commerce! quelle foule de batiments!*" afforded a very fair index to the impressions of our foreign friends, riveted by this marvellous specimen of England's commercial greatness. One of the spectators, however, of Liverpool—and he was not a Frenchman, but a respectably-dressed and seemingly well-to-do Londoner—we must specially signalise. This individual displayed one of the most curious and unaccountable degrees of unintelligence and stupid fatuity it was ever our lot to hear developed. The man was taking the model of Liverpool for a model of London, and was pointing it out to two or three persons, who had evidently placed themselves under his sage guidance as an enlightened Cicerone to the Exhibition, as such; and was, moreover, dilating upon the extreme resemblance of the model to its prototype, London, to wit; and actually pointing out the principal buildings in Liverpool as those in London—taking St. George's Hall, for instance, as being St. Paul's, and the Custom-House (the architect would not have been much flattered by the mistake) for no less a triumph of architectural genius than the National Gallery. Our enlightened friend went on to point out the lines of street as being the Strand, Fleet-street, Cheapside, Piccadilly, and so on; while his favoured auditors stood gaping by, swallowing every word the wonderful stolidity of their friend prompted him to utter. We never saw a more marvellously complete Exhibition of pure *bêtise*. The admirer of London, however, in Liverpool, was not the only curious instance of blundering we overheard. In the Nave there is a model of a very beautiful chain bridge erected by an English engineer over the Dnieper, in Russia. We were examining it, when two girls, smart young women, came up, and, after a pertinent remark or two had passed between them, one expressed her surprise at the construction of what she called the double bridge, and wondered why the people should want a separate roadway close to the water, when they had such a splendid one above—this double construction, which both the girls imagined they saw, being nothing more or less than the reflection, in the mirror which represented the river of the lower side of the real pathway!

Amongst the models of engineering works, which are of course very numerous, we may call attention, besides the very handsome bridge in question, to several other bridges for different purposes, and of different constructions, swing, tension, and suspension, for railways and the passage of ordinary road traffic. The neatness of handiwork in these models is remarkable; and in some of them, every bar and girder, every pin and coupling are made to scale, and specimens of them displayed beside the principal work. The bridge over the Dnieper is constructed like that at Hungerford, the chains being longitudinal plates of iron running parallel to each other, and the suspending rods being also solid masses of metal, a mode of construction far more strong and durable than the twisted wire system so much in favour in France. The larger rivers of that country, particularly in the south and west, the Rhone, for instance, and the Garonne, are studded with suspension-bridges—very graceful and airy to look at, but appearing to be exceedingly roughly finished, and anything but secure, on nearer examination. The swaying, and creaking, and cracking of many of these structures beneath the weight of a well-laden diligence is anything but comfortable to a nervous passenger. The model of the Menai Tubular Bridge, also a beautiful specimen of neat-handedness, attracts much and deserved attention. One tube is represented as being in its place, and you can look through the hollow from end to end, just as in the actual tunnel; the other tube still rests upon the pontoons, so as to convey a notion how the gigantic square pipe was lifted to its place. The model of the schooner-yacht sailing beneath, however, is rather loftily rigged. It seems touch and go whether she would not have scraped her trucks upon the lower surface of the aërial railway.

Continuing to make our way eastwards along the Nave, we come to a whole city of model churches, one of them upon a very large scale. Some of these models have been designed for architectural purposes, others with the intention of showing a new material called Ladyshore terra cotta, of which substance in one of the sacred edifices in question, not only are walls and steeple built, but all the internal fittings, pews, pulpit, and even organ case. To the right, in the Fine Art department, is collected an assemblage of commonplace models of buildings—cottages, mansions, churches, town-halls, courts, and so forth—in no way remarkable as models, whatever may be their architectural pretensions; ornamental models, too, of celebrated classic structures, formed of Parian, alabaster, and such like media, also abound, their design being for drawing-room ornaments. Hereabouts are deposited two of the models which we have referred to as specimens of that vulgar and thoroughly inartistic style which is usually exhibited by the class of industrials to whom we referred at the opening of this article, and who are for ever producing specimens of incongruous ingenuity and tasteless efforts at art, the true principles of which they know nothing of. Thus, the model of Tynemouth rock and priory would be very like nature, if the rock in question consisted of a pile of frozen treacle. The general outlines of the cliff, and a noble promontory it is, are no doubt reproduced, but all the character of the rock is gone; the geologic peculiarities which give to all rocks their particular individualities have been left out of the question, and the whole affair has been smeared over with paint, until it gleams like ice formed from muddy water. Again, as a sample of the same taste, only rather more ambitious, we have the Shakspeare house idealised according to our confectionery standard, and surrounded with vile dolls purporting to represent the Shakspearean characters. The execution is worthy of the conception, which is utterly incongruous and unworkable, being indeed a most inharmonious union of an allegory and a fac simile; and the general standard of taste to which the work belongs is precisely that which erects precipices of two feet high, crowned with cupids, or perhaps cairns of shells, with holes in them, designated grottos in suburban tea-gardens. Now, we point out the faults in these productions in the very reverse of an unkind spirit to their constructors. They have at all events a certain degree of ingenuity and a certain taste for imitative handy-work, which, when guided and turned into the true channels of art, may well produce something worthy of attention and admiration. But, until they study the nature they profess to imitate more closely, until, too, they attain to that, when it does come, almost intuitive feeling for what can and what cannot be imitated in nature, this ingenuity of handy-work will only avail for the production of compositions as foreign from those presided over by pure and real art, as are the idols of India, with a hundred hands and a score of heads, from such conceptions as Apollo slaying Python, or Pallas meditating over her favoured Athens.

Another model of Shakspeare's house, free from all allegorical rubbish, is by no means a bad specimen of the purely imitative power. A Chinese artist would be delighted with the conscientiousness with which every crack and stain in the walls is represented—every warp and flaw in the woodwork, and every pebble in the rough-cast pavement. The ambition in this case has been humble; and, as a specimen of a miniature fac simile, the work is entitled to praise. After the same fashion is the model of the interior of Her Majesty's Theatre—a very neat-handed specimen of miniature decorative upholstery. The effect would, however, have been much increased, had some mode been hit on of lighting up the interior, which is a great deal more gloomy than people generally see it. A model in the raised map style of a part of Switzerland gives, at a glance, the species of information, topographic and geologic, which these representations are fitted to convey. Besides seeing and understanding in a moment the general lie of the country, the student will at once perceive in the nature of the ground the causes of the formation of lakes in the valleys and glaciers in the higher hollows of the hills. He will also be able to see why the wood creeps up to a higher elevation in some spots than others—how it sometimes follows the nourishing power of a descending stream, and how it sometimes owes its existence to the sheltered situations of tranquil hollows lying pleasantly towards the afternoon's sun. In all these maps, however, the points of the compass ought to be given. In the Swiss department there is another mountain model, formed upon the picture, not the map, principle—and the utterly unworkable phase of the picture principle, that of the ordinary landscape, not the bird's eye view: the effect is what might have been anticipated—the thing is a worse monstrosity even than the Shakspearean Jubilee. A large landscape model, which naturally attracts a great deal more attention than its artistic merits deserve, is that of the castle, grounds, and general landscape of Roseneau, where Prince Albert was born. The foreground is occupied by crowds of figures—the occasion represented being that of rural games—a blythsome party of peasantry dancing round a sort of May-pole, with numerous spectators looking on, with their meerschaums in their mouths, or delectating themselves in a neighbouring pavilion upon the national beverage of the Saxon, good humming "*bairiecher*," or Bavarian beer. A very fair *fac-simile* of a German cottage, with its white plastered walls, crossed and veined by black beams, is introduced in the foreground. A waggon loaded with hay is coming along at comfortable Teutonic snail's pace. In the middle distance we have the Castle, a plain double-gabled building, placed upon an artificial mound, and surrounded with trees. The background, professing to give an extended view of the distant country, is necessarily a failure; and, indeed, the half-caricatured style of the figures in front prevents us from considering the whole affair in any other light than that of a semi-jocose piece of unpretending ingenuity. There is considerable character in the figures, however; and the curious holiday head-gear of the female peasants—consisting mainly of a cataract of broad black ribbons flying over their shoulders—is imitated with great care.

So much for some of the most prominent English and European models in the Exhibition. We turn, for a concluding paragraph, to those sent us from other quarters of the globe; and, first, let us glance at the Indian and aboriginal cottages contained in the West Indian collection. There are two very curious and interesting models of these structures—one from Guiana, the other from Trinidad. Both are very rude and essentially savage, displaying, however, much of that neat-handedness which savages often possess. The principle of construction is the same in both cases. Strong wooden uprights support a highly-rising roof, formed of strong palmetto leaves. About one-third of this dwelling, which has no regular walls, is partitioned off by a sort of square screen, forming the four sides of a room, but not rising higher than the uprights. Here there is a bed. In the outer portion of the house hammocks are hung, and rude hunting and fishing implements scattered about. The great height of the roof leaves an ample space between the rafters and the crest, which is crowded with lumber piled ingeniously upon the joists, so as to produce the effect of quite a store-room for odds and ends. But the still more interesting model constructed by savages, or, at all events, semi-savages, is that of the native war pah, or New Zealand fort. It is a large stockaded place of defence, with a double line of palings and a ditch between; the construction of the palings, as manifest in the mode of binding the stakes together, being at once wonderfully strong and simple—so managed, indeed, as almost to preclude the possibility of a few stakes being forcibly pulled out without the whole wall going together. The most strange part of the model, however, is the disposition of the lines of defence in very much the same shape as those adopted in modern fortifications,

The same principle has evidently been acted on—the walls running so as to flank, command, and mutually fortify each other—and falling into the shapes to which we give the names of ravelines, bastions, flanking walls, and so forth. The adoption of a similar principle of defence by civilised and savage people, shews at once the common sense and common reason which prevails over the principles of fortification as we now teach them.

India is rich in models. We have many very interesting ones of Eastern ships, particularly the finely-shaped and moulded piratical craft which haunt the great Archipelago. Then there is a number of models of temples and shrines, some neatly manufactured, others rudely carved, but probably representing the originals with sufficient accuracy. To this interesting collection of model figures, we directed attention in a recent article on costume. The assemblage brings the actual condition of the natives before our eyes much more vividly than any pictures could do. Then there are interesting models, rudely made, but probably quite correct, of the processes of different trades. At the saw-pit there is, as with us, a top-sawyer and a subordinate. The weaver plies his rude-looking, but often skilfully-managed loom; the agriculturist, with a yoke of bullocks, stands on his plough to force it down the further into the earth; while, as in the time of the prophets, the hand-mill is still wrought by two women—a toilsome and a slavish work. On the opposite side of the great tent are arranged another set of models, representing what we may call high life in Asia. Here we are altogether among rajahs and nabobs; and we have miniature palankeens and howdahs, and thrones, miniature nautch dances, and miniature camel and elephant processions; not forgetting one specially interesting specimen of imitative art, proudly labelled "English officer drinking porter." Tearing ourselves away from this deliciously national memento, we find, at the back of the Peri Banon's tent—for that it must be, and no other—some of the most interesting and characteristic models in the Exhibition. Two of these are of courts of justice—the one presided over by a European in "mufti," the other by a native judge, gorgeous in gold and silk. The courts appear to be roofless; they are probably placed in the shade, and are mere platforms or hustings. The judge sits at the back: a couple of clerks and a couple of advocates, all natives, before him; three or four persons, acting, we presume, as ushers or officers of the court, and distinguished by yellow scarves, are in attendance outside the platform, which may be elevated some three feet from the ground, while the culprit is in both instances represented as begging with clasped hands apparently for mercy. Another interesting model is that representing Hindoo religious penances; half a dozen enthusiasts being suspended by hooks fixed in the dorsal muscles to a sort of revolving piece of carpentry, which is turned by their friends below, and the wretches swung in circular fashion, somewhat in the style of the revolving machines one sees at the fairs, although, in the present case, the poor fanatic victims can hardly be said to be in the enjoyment of a decided "merry-go-round." Among the miscellaneous Indian models is one of an indigo factory, with a curious sort of treadmill for getting up water; no end of pagodas and temples, with miserable humbugs of graven images, showing a descent in art almost to Chinese level; a clumsy, but elaborate representation of a fortified citadel, the men out of all proportion to the building; and perhaps the most curious of them all, the model of "The Encampment of a Collector of Revenue settling with the Cultivators." The space shown is a square piece of ground, intended probably to represent two or three acres. Here numerous tents are pitched; and peeping into them, you see the collector and his subordinates busy receiving and giving receipts for the cash. The tax-payers, who have paid up or are waiting their turns outside, are squatted in great numbers upon the grass—each man with his schedule in his hand, and, no doubt, grumbling lustily. The encampment is studded with trees, not much better than those arboriferous attempts we sometimes see made with shavings; but they bear vast crops of yellow and red fruits, and afford a resting-place, moreover, to no end of birds, as big as eagles, or swans at least. Behind the main encampment are piles of luggage. Camels lie in a line beneath the trees; bullocks and elephants fraternise amicably; and scores of servants fly from place to place. At a brook which meanders through the encampment, washing operations are being prosecuted with great vigour. Cavalry horses are picketed about, and a company of English infantry are lounging round their piled arms. Altogether, the model, though having no pretensions as a work of art, is very curious, very characteristic, and very instructive.

A LADY'S GLANCE AT THE GREAT EXHIBITION.

There is nothing more remarkable among the wonders of the great metropolis, than the ample manner in which the peculiar habits and bent of mind of every class of society is catered for in the way of public amusements. It has, however, been reserved for the Great Exhibition to comprise under its one crystal roof objects of interest to every one, and to solve the apparently impossible problem of satisfying every taste, and fulfilling expectations of the most opposite and contradictory character. The Londoner, wedded to the comforts and elegances of the metropolis; the country gentleman, profound in crops and agricultural implements; the mechanic and the labourer, intelligent on looms and on loams; the amateur in art, in search of a *chef d'œuvre*; the manufacturer on the *qui vive* for an idea; may each find there representatives of his own peculiar tastes, interests, and feelings, and to each will the whole, beheld from his own peculiar point of view, present itself in a different aspect.

Although by no means disposed to undervalue the interest which attaches to patent ploughs and improved steam-engines, or to depreciate for a moment the beauties of the Bavarian Lion, or the utility of Messrs. Taylor's Jacquard loom, still, as I am "only a woman," and cannot be expected to appreciate their details, I am content to leave their description to those whose experience renders them more competent to grapple with such mysteries; and, seeking in the retired byways of this Temple of Industry objects of a more congenial, if less important character, to view the Exhibition with a woman's eyes alone. I have the less hesitation in claiming a brief space for the examination of objects more peculiarly attractive to ladies, when I remember that there was perhaps scarcely ever a great work commenced in this country in which they have so fully participated. They began at the commencement with the Subscription Committee at Stafford House, as well as with the less aristocratic, but even more productive, meeting of ladies at the Mansion House; and at the final completion of the great work, their contributions to the adornment of the Building were found to have been neither few in number nor uninteresting in character. The objects in the Crystal Palace which address themselves especially to the predilections of ladies, are so numerous and so varied, that I am almost overwhelmed with the *embarras des richesses;* and not being of a mathematical turn of mind, I scarcely know where to begin; but the following may be instanced as among the most prominent:—

To silks, as occupying so important a position in our own toilet, I must certainly give the precedence. They are offered for our inspection in every variety—damask, brocade, tabinet, glacé, striped, checked, watered, shaded, and clouded; some valuable from their brightness; some, the merit of which consists in their dulness alone. Many specimens are interesting not only from beauty of design and delicacy of manufacture, but from the histories which attach to them of the wearisome months of labour and anxiety employed in their manufacture, and of the obstacles which have been overcome by the skill and perseverance of the mechanists. As, however, I propose, on some future occasion, enlarging on these fabrics, I will proceed to what may be regarded as a humbler feature of the same department, and glance at the different specimens of ribbons. There are gauze, satin, sarsnet, velvet, and lute-string—plain, figured, flowered, stamped, and open in pattern as well as in texture; with edges plain, scalloped, pearled, and vandyked. These are present in every variety of width, quality, and colour. There is also a description peculiarly adapted for trimming; it is goffered and quilled in the process of manufacture, and with a regularity that the most skilful hand could never emulate. It is easy to prophesy for this invention a welcome from dressmakers as well as from their employers. To the former it will save many hours of ill-requited labour, whilst to the favour of the latter class its novelty will be a sure passport.

In alluding to the subject of Furs, I find myself really bewildered by the number of animals which have contributed their skins to enrich the various collections, among which the beautiful trophies of Mr. Nicholay, of Oxford-street, rank deservedly high. The aristocratic ermine, with many others of the weasel tribe, are to be found in perfection. The delicate chinchilla; the Siberian or Russian sable, the most valuable of its species; that from Hudson's Bay, only second to it in repute, are worthily represented. The wood-marten, a native of the German forests; the stone-marten, an inhabitant of rocks and ruined castles; and our own English marten, all add to the assemblage of materials for muffs, boas, trimmings, &c. In some instances, as in that of Mr. Nicholay, the skins are exhibited in a manufactured state, but this is by no means universally the case.

We shall find ourselves so amply rewarded for a *minute* investigation of the different varieties and individual specimens of Lace exhibited, that, not having adequate space at my disposal at the present time, I must content myself with observing, that our admiration is claimed by every description of Point, Honiton, Mechlin, Brussels, Valenciennes, &c., in the forms of dresses, veils, berthes, shawls, scarfs, cassaveka, &c., of a beauty and elegance hitherto never equalled.

Among other articles of luxury in the Crystal Palace, to which, as exclusively interesting to ladies, I must not omit to advert, are the fans of M. Duvelleroy, who employs, I am told, in his manufactory for their construction, no fewer than two thousand hands. Among the fans selected by him for exhibition, are a set intended for the ladies of the Sultan's Harem, decorated with designs from the "Arabian Nights;" there are also the fans which were used at the marriage of the Duchess of Orleans, painted by distinguished artists of the day: there too, precious relic of a most unfortunate woman, is the fan of Marie Antoinette, which has been recently repaired, and restored, I should imagine, to something like its former beauty; nothing had remained of the original except the panaches and pieces of the handle, which is of mother-of-pearl adorned with medallions and ornaments of carved gold. In the space formerly occupied by the Royal arms (erased during the Revolution) is now to be seen a picture from the pencil of Boucher. Some of these toys, enriched with jewels and works of art, have been sold at a sum approaching a thousand pounds each. Interesting and valuable, however, as such specimens may be from their adornment, they are in some respects inferior to the elegant feather-fans now in vogue, the lightness and airiness of which render them peculiarly applicable to the purpose for which they are designed.

Of feathers, the courtly decoration of ladies of all nations, and favourites alike with the most savage tribes and the most civilised orders, every variety seems collected here from the four quarters of the globe. The white plumage of the ostrich, the delicate feathers of the osprey, the egret, and the marabout, are rivals in beauty; some there are which, though little valued by us, are interesting as being employed by the chiefs of the wilderness as emblems of supremacy over their own wild brethren. Some, the tribute of birds long held sacred, as, for instance, the ibis, whose form was so favourite a subject with the artists of antiquity, and whose scarlet plumage in its natural condition forms so brilliant a wreath for the hair, also contribute their attractions. It is not, however, to ornamental purposes alone, that feathers are appropriated in the Exhibition. Bonnets composed of them have there made their appearance, and may be included amongst its decided novelties. The feathers selected for the purpose are those of the pheasant of many kinds, the goose, the swan, and especially the guinea-fowl; they are arranged on a shape in rows of diversified colours, and in many variations of pattern. The bonnets are light, soft, and warm; but, with regard to their beauty, there will be much difference of opinion, varying with the taste of different individuals.

Turn we now to the specimens of imitative art, which present themselves in the shape of Artificial Flowers, in the different forms and materials, which claim our wonder and admiration. It would, indeed, form a distinct Exhibition, of no little interest in itself, could the different specimens of imitative flowers, which are scattered through the Building, be collected in one spot, free from the admixture of any attractions foreign to themselves. Let us observe, first, the strange variety of substances, some of the most stubborn, and, apparently, unavailable character, which contribute material for the imitation of the lightest and most delicate of the creations of the Almighty, and unite as it were in doing homage to the world of flowers. Stone in endless variety, from granite to marble; wood of every hue and grain—the ebony, dyed black by nature; the delicate maple, box, and satin-wood, fairest of their order—and even spices, the clove, nutmeg, and pimento, seem to blossom again in a new phase of existence. Precious stones, valuable for their rarity, add their costly contributions, and seem to gain new beauty in the guise of the rose, fuchsia, and forget-me-not. Even coal, the least valuable though not least beautiful specimen of the mineral kingdom, polished and fashioned into buds and blossoms, shows its dusky face among its betters, and has its claims to admiration most ungrudgingly allowed. The pure ivory tusks of the elephant, and the flexible bones of the whale, are alike made tributary to the genius of the garden; whilst the broad ocean sends her contributions of seaweed, coral, shells, and, lastly, pearls. Birds, too, resign their plumage—the peacock and the flamingo, the bird of paradise and the turtle dove, which gives its own name to the most beautiful of quiet colours. The insect tribe (the bitterest enemies of the flower race) have their representatives here to do them honour. The beetle of Brazil and the firefly contribute their wings, and the honey bee its wax; whilst man himself gives not only his labour and his ingenuity, but adds one of the most singular materials of all, his hair!

Amid so great a variety of specimens, each possessing some distinct claim to notice, either from beauty of design, elegance of arrangement, or the ingenuity which has produced excellence from apparently the most unpromising materials, it is somewhat difficult to determine where to award the palm of merit; and here my own personal tastes will of course have their preponderating influence. In the many visits I have myself paid to those portions of the walks and galleries of the Crystal Palace which are devoted to the exhibition of artificial flowers, the following struck me as peculiarly remarkable for artistic skill, beauty, and novelty.

In the Illustrated London News of the 7th of June, an Engraving was given of the *Magasin* of M. Constantin, situated in the Nave of the Building, conspicuous alike for its architectural attractions, its tasteful adornment, and the admiring crowd by which it is generally surrounded. It has been found necessary to guard it from too eager an approach by a railing, which, however, the proprietor has rendered as little conspicuous as possible by a covering of velvet, in deference to the admiration which causes the danger. Amongst the most beautiful, and certainly most original of the exquisite imitations in this collection, I must especially notice—for elsewhere I have seen none of their particular class to equal them—a variety of exotic plants as they appear in their various gradations of bud, blossom, full maturity, and, finally, drooping or dropped from their stems in decay. The latter specimens are peculiarly effective; and the more so because the artist, with a taste commensurate with his skill, has represented them, in a withered state,

> Before decay's effacing fingers
> Have swept the lines where beauty lingers;

showing them attractive even in their decay. There will also be found in the same case a group of orchideous plants, a beautiful specimen of our English vine, the hop plant with its scaly fruit matching in verdure its beautiful leaves; then the lily of the valley, "veiled as a nun," to use the words of Wordsworth, near to her towering sister of the garden, as pure in colour, as elegant in form, and as pre-eminent for stately beauty as her fair namesake for humble grace.

The contributions of M. Tilman, the well-known manufacturer of the Rue Ménar, whose exquisite specimens of floral imitation, secured to him, it would appear, as effectually by skill as by the patents which he has obtained for them, will be found in the gallery of France (No. 698). Here you may see wreaths for the hair, of every variety, and adapted to almost every phase of existence. First there is the chaplet of orange blossom, sacred to the bride, destined, after being once worn, to be laid aside for the blush rose and jasmine of the East. To succeed these, when weary of them, she may assume here the seaweed garlands and coral chaplets of the Nereïds, or array herself in wreaths of the beautifully minute water plants of the Naïads, which we see beneath the still pools and calm watercourses on a summer day; here they are, exquisite as in their native element, with tendrils of the wet grass glistening around them. Would she enact

> The fair Pastora by a fountain's side,

she may watch her own image in its waters, adorned with a coronal befitting her character. The quivering oats, the bearded rye, and corn of every description, are here collected; even the autumnal parasitic flowers, blue and red, beautiful in all eyes save those of the farmer, are not forgotten, but are here in readiness when the time of the summer rose and jasmine is over, to supply their place in the adornment of those refined connoisseurs in costume, who never deign to wear even an artificial flower out of season.

Nay, would she wander even farther from the beaten track, here may she adopt the vine and ivy garland of the Bacchante, the oak leaf and acorn fillet of the Druid, or be crowned with bay like Corinne on the Capitol. All are to be met with here, scarcely less beautiful than in nature itself; all, save the wreaths for the dead, and these art has no need to imitate, since nature herself supplies them in her own *immortelles*.

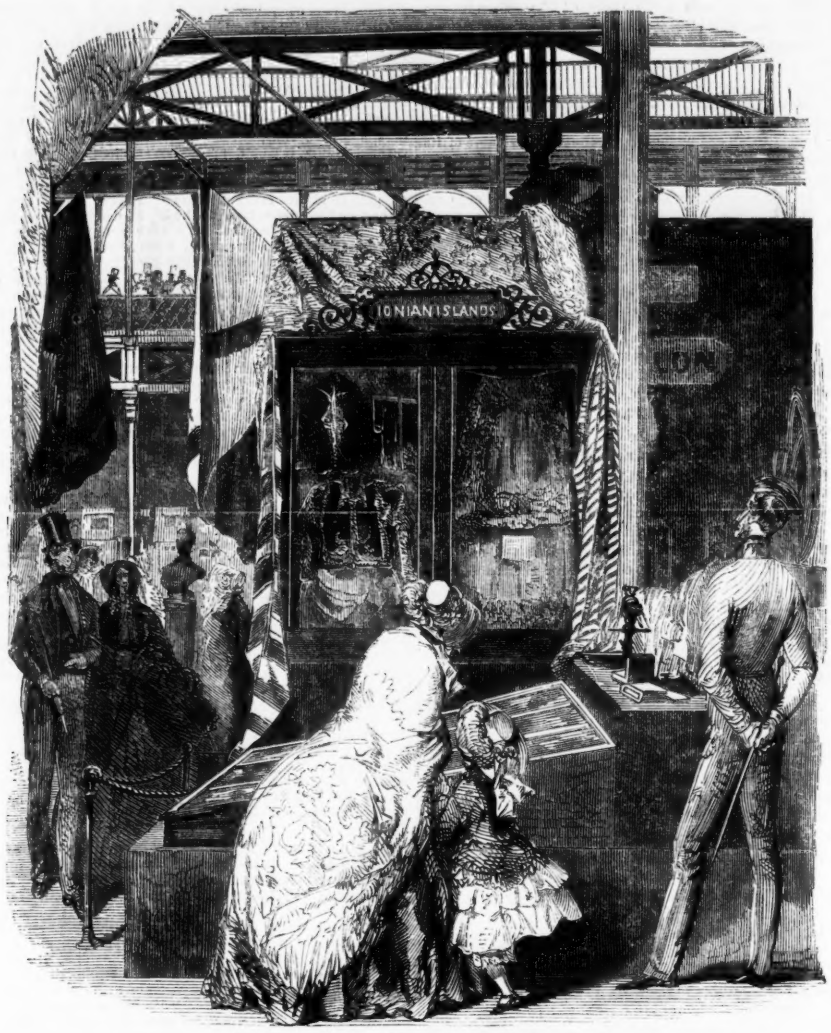
Beneath these specimens, in the same case, may be noticed as peculiarly beautiful, the passion-flower, white and lilac, with its fanciful associations of holiness; the lotus, pure and placid as sculpture among flowers, with even the dust upon its leaves; roses in all their infinite variety; tropical plants of sunny hue, equally difficult to name as to describe. More exquisite still, and perhaps as specimens of imitative art the most wonderful of all, are tufts of every variety of grasses, in their different stages of progress towards ripeness, which, humble as they are, detain the eye long after it has been satiated by the charms of their more showy and pretentious rivals. From the reedy sedge to the quaking grass, all find here their perfect representatives. A rough, but intelligent, country lad, who stood beside me for some minutes, after a gaze of silent wonder, broke out with the best compliment I had heard to the fidelity of these imitations, by remarking, in his own vernacular, that they only wanted a "*bird's nest*" to be nature itself.

A short distance from the cases of M. Tilman is an exhibition which, for originality of design and effect, is almost unique. It might, at first sight, appear rather to form a feature in the specimens of *laces*, to which I propose advert ing hereafter, than in the collection to which our attention is now more particularly directed; but, as its novelty consists less in the manufacture of the fabric than in the purpose to which it is applied, it seems but right that honour should be rendered to it here. In case 268, Madame Josephine Hubert, of No. 2, Rue du Grand Chantier, Paris, exhibits an entirely new application of lace in the formation of artificial flowers. The mere representation of flowers in lace, *woven* by hand in the material, as exemplified in the fabrics of England and Valenciennes, or *inserted* in it, as in the Honiton and *appliquée* laces, is of course familiar to every lady. We have thus seen them produced in bud and blossom, *en profile*, and, as it were, full-faced; but in one single important feature they were identical—they all bloomed on a flat surface. It seems to have been reserved for Madame Hubert to exhibit them in the same exquisite material, independent as the original flowers they are designed to imitate; erect or drooping, as we see them in nature; in forms globular, bell-shaped, or expanded, capable, but for their delicacy, of even holding water. The petals of each flower are spread out separately, or folded over each other; they are convex or concave, as the chosen specimen demands, and, wonderful as it may appear, are complete even to the pistils and stamens. Here may be seen the rose, major convolvulus, and other larger flowers, grouped together in forms suitable for the decoration of the skirts of dresses, with little *bouquets* of harebell, snowdrop, &c., arranged for the bosom. Their effect on a velvet dress must be delicate and striking in the extreme; but to show them to the greatest advantage, a dark background would always be desirable. I must not omit to notice one great advantage which the flowers of Madame Hubert possess over their rivals of cambric, wax, &c.—nay, even over the originals from which they are copied!—and it is this, that they are all warranted to wash. This is an age of wonders, and I confess myself gifted with a large belief, otherwise it would be difficult to conceive it possible that any fingers less experienced and expert than those of the inventress could restore forms so fragile to anything resembling their original perfection.

In the number of this Journal for the 31st May, a plate was given of the celebrated *Victoria regia*, as it bloomed in the nursery-ground of Messrs. Weeks, of the King's-road, who had been successful enough to induce this coy beauty to blossom in the open air. Perhaps there are few of the more wealthy classes in London who have not paid a visit to this rare plant, either there or elsewhere. If, however, any one has missed this sight, she may still have an opportunity of seeing it reproduced in wax, in the collection of Mrs. Strickland, of Bond-street, in the North-west Gallery. I chanced to have seen the flower itself in bloom at the Botanic Gardens only the day before I first visited the stall of Mrs. Strickland in the Exhibition, and an imitation more faithful it would be difficult to imagine. There it is—flower, bud, and leaf—with the blue and white water-lilies surrounding it, like maids of honour in waiting upon a queen. In case any of my readers should be unacquainted with the flower, I may observe that it is of a creamy white colour, with the inner petals pink: the outer leaves, inclosing it as in a cup, are thickly spiked or thorned, as though to protect it from harm. All these features are most accurately given, as may be imagined when it is known that each leaf took a period of five hours merely to furnish with its prickly guardians. Nor is this all: visitors to the original plant are usually treated to a sight of the giant leaf on its reverse side (that ordinarily hidden by the water), which is most curious in its construction, looking, with its brown ribbed surface, more like wrought iron rusted by time than any substance of a vegetable nature: this view of it has also been repeated in wax, with equal success by Mrs. Strickland, who is, I believe, the only person by whom it has been achieved. Another beautiful production of her art is *Amherstia nobilis*, first flowered by Mrs. Lawrence, if we mistake not, which won for her a prize from the Botanic Society. This is surrounded by the calmia, the tigreda (a butterfly among flowers), the slipper flower, with its long tendrils, the magnolia; in fact, by many which it would require a florist to designate. I must not omit to recommend to the minute attention of those interested in detail as well as in effect, the clustered bunches of heaths: the flowers of one particular specimen, though scarcely as large as a barley-corn, are each supported by their individual stem. It will be evident to every one that Mrs. Strickland is an enthusiast in her art, possessing a perfect mastery over her materials, and as much of a genius as an artist, in the path she has adopted; and, when we are informed that lessons in this elegant accomplishment may be obtained for five shillings each; that the necessary materials are clean enough to be touched by fingers the most delicate, and may be arranged on a space little larger than could be covered by a cambric handkerchief; I must be allowed to recommend its acquirement and practice to my young friends, in preference to the knitting and crochet, which seem rather adapted for the recreation of those whose eyesight has grown dim, and whose hand has in some degree "lost its cunning." Before quitting the subject, I may advert to another species of artificial flowers, composed of floss silk stretched across a fine framework of twisted wire. They are rather curious than very pretty; and, as representatives of nature, are inferior to the well known feather flowers, or even those formed of dyed whalebone.

A beautiful bouquet, composed exclusively of human hair, is exhibited in a frame in the South-eastern Nave; and, although not presenting that variety to be found in other imitations of flowers to which we have before alluded, it is curious from its fidelity in form, and the ingenuity with which the most is made of the limited advantages of colour afforded by the material.

My next paper I propose to devote to a more detailed examination of some other features interesting to ladies, and to which I have here only cursorily alluded.



IONIAN ISLANDS AND CEYLON COURT.

THE IONIAN ISLANDS AND CEYLON.

OUR Engraving shows almost the whole portion of space occupied by the contributions from the Ionian Islands and Ceylon, from both of which a much larger display might have been looked for.

The Ionian Islands have but few manufactures; their available land amounts to about 500,000 acres, and the population is not much above 250,000. They enjoy a beautiful climate, but are subject to hurricanes and earthquakes, and, occasionally, the oppressive heat of the suffocating sirocco. The vine thrives, and more than three-fourths of the cultivable land is devoted to vineyards, currant grounds, and olive plantations. The annual produce of currants is between 17,000,000 and 18,000,000 pounds, and of olive oil from 100,000 to 120,000 barrels; and of wine, about 200,000. The peasants' wives spin and weave coarse woollen cloth. Silk, especially scarfs and handkerchiefs, is manufactured at Zante.

In 1817, these islands, seven in number, and forming nominally a republic, but in reality a most exclusive and corrupt oligarchy, came under the protection of Great Britain; and it is said by those well acquainted with the islands, that, under due encouragement from the present High Commissioner, Sir Henry Ward, they might have occupied, with a really beautiful show of materials, manufactures, peasant work, trinkets, and models, a much larger and very attractive space in the Exhibition.

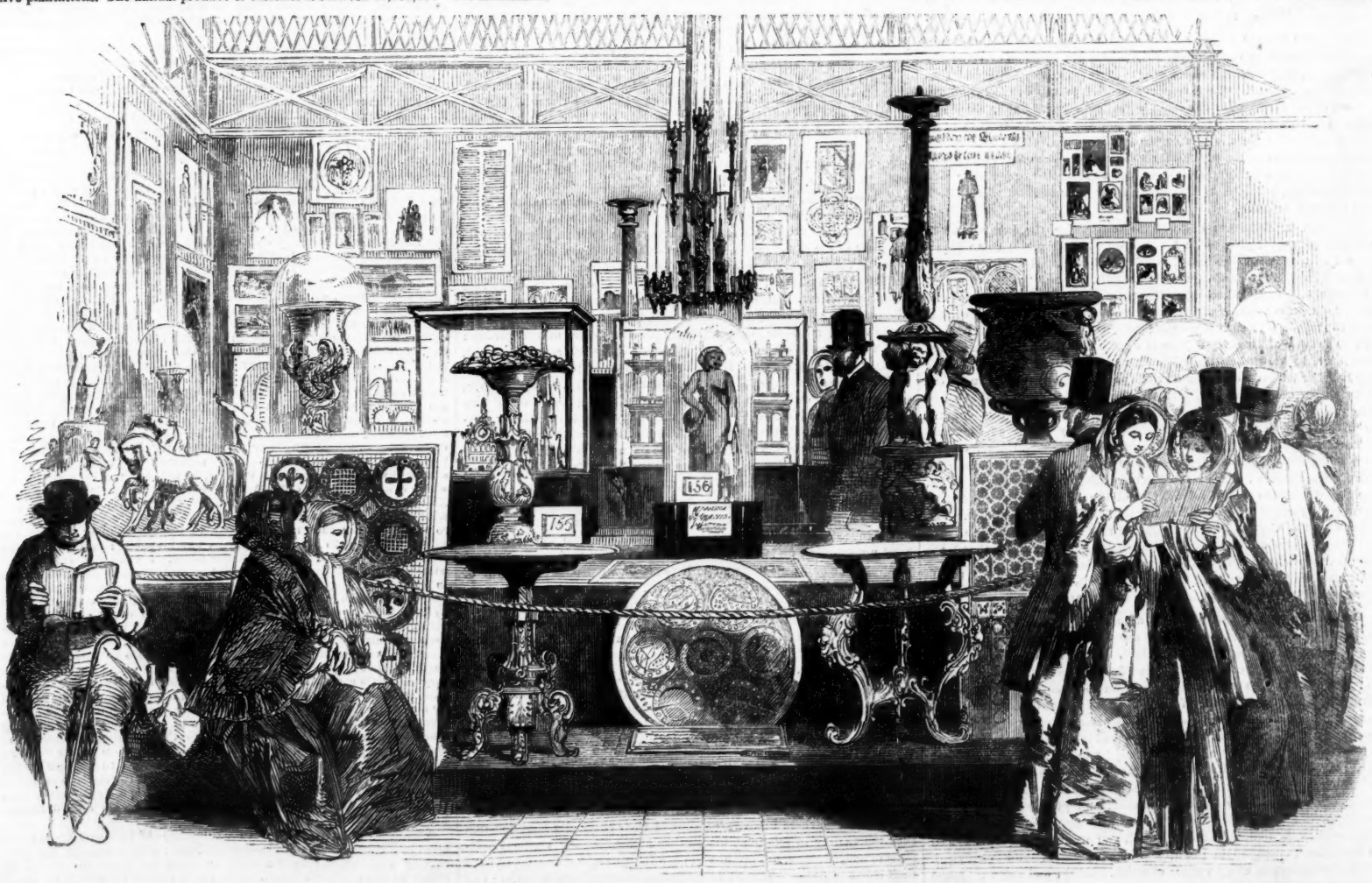
In the case shown at top of our Engraving is a gold embroidered Greek jacket, and two tastefully bordered knitted aprons, the work of a peasant girl at Corfu; below it, in a case, are silk scarfs and handkerchiefs, from Zante; purses, cigar-cases, tobacco-boxes, and bags in gold embroidery on velvet, the work also of peasant girls (and very tastefully worked they are), at Santa Maura; and gold and silver bracelets, brooches of hammered and filigree, from Corfu.

To the right of this little collection of Ionian goods are the articles sent from Ceylon. The round tables shown in the Engraving are composed of from thirty to five and thirty varieties of wood fitted for cabinet-making, and amongst which are varieties of teak, satin-wood, cocoa-nut, mahogany, and a number of light and dark plain, feathered, and shaded woods. The pillars foot, and frame of the tables are of carved ebony, the divisions of the veneers in inlaid silver, and two of them are also inlaid in white and stained ivory. Thirty-seven varieties of timber are shown in blocks of about 18 inches long and 4 inches square, having one side polished. There is also an open case, showing the several sorts of cinnamon, and in which the perfect evenness and fineness of the best must satisfy most housekeepers, that, whatever the price, they seldom meet the best of this delicious spice. There are also models of coffee stores and drying platforms; the machinery for removing the inner skin of the berry; model of a building for carrying on Cherhew's patent process of coffee-curing, in which the floors, instead of sacking, as in the ordinary drying-house, are of perforated metal artificially heated from below. In front are cases of gums and seeds, showing the castor nut, from which the oil is made; varieties of rice and coffee in different states. Then there are native-made nets, cloth, matting, medicinal oils prepared from various seeds; painted earthenware, amongst the specimens of which is a tea-pot of the King of Kandy, which would hold a couple of gallons. But viewing Ceylon as a land of elephants, spices, pearls, precious stones, and curious costumes, ruins, temples, customs, and races, the display is certainly but meagre, and one to which, we are inclined to think, Lord Torrington, Colonel Thompson, of the Royal Engineers, Mr. Tuffnell, and others, could make many interesting and valuable additions.

BAY OF THE FINE ART COURT.

OUR Engraving shows the centre stand, next the Nave, of this court, which, as our readers are aware, is devoted almost entirely to architectural models, decorations, and designs. The public are most attracted by the illuminated glass mosaics exhibited by Mr. George Henry Stevens, of Stafford-row, Pimlico; the effect shown in a pair of twisted columns, tables entirely of the mosaic and with the mosaic inlaid in tracery on marble, and a specimen of heraldic emblazonry, is exceedingly rich, and shows that this style of ornament, probably the very first form, after precious stones, that mosaic ever took, is capable of being applied to vast varieties of monumental, heraldic, and house decorations. Mr. Stevens has spent some years in bringing his mosaics to their present perfection, and has, certainly, in the specimens exhibited, shown both artistic arrangement of colour and skill of workmanship. On the same stand are shown some very beautifully modelled *terra cotta* figures and vases, by Beauclerk, in clays of different shades of color. Slabs for tables in inlaid marble, designed by Gruner, executed by Woodruff, and exhibited by his Royal Highness Prince Albert. A china biscuit tazza, designed by J. O. Small, and modelled by Messrs. Small and Malling, Newcastle-upon-Tyne. A candelabrum, designed by Gruner, executed by Romoli, and also exhibited by the Prince. A new design for a candelabrum, by William Mossman, 17, Regent-street, Pentonville, in brass, made in 741 pieces, fastened by screws, and so contrived that the whole can be set up in a variety of shapes.

The remainder of the stand is almost entirely occupied by architectural models. First in size stands a very elaborately executed model of the Cathedral, in oak, by F. and J. B. Webb, cabinet-makers, of Taunton. The Royal Exchange and the Monument, modelled in cork, by Thomas Smyth, jun., at the cork manufactory, 49, Eastcheap; specimens, certainly, of care and skill. A composite column, after the Ionic, designed by Mr. Smalman Smith, architect, to represent the Exhibition: the capital is composed of initial letters and the Prince of Wales' plume; the column represents a bundle of reeds, to show the union of all classes of society; the three kingdoms are displayed in the base, by the rose, shamrock, and thistle; and the spirit of union, to the disfigurement, as it seems to us, of the column, by three bands or garters round it. Else the column



BAY OF THE FINE ART COURT.

though it falls short of the Exhibition, in showing but the three kingdoms where it should have shown the world, is nicely devised, and well proportioned.

Close to this are some beautifully finished models in ivory, produced entirely in a lathe, and solely by circular motion; amongst others, of the Temples of Neptune, Jupiter Tonans and Stator, at Rome; and the columns of Phocus and Pompey's Pillar. Models of Clumber House, the seat of the Duke of Newcastle, cut with a pen-knife in cardboard, on a scale of $\frac{1}{8}$ in. to a foot, and containing vast multitudes of pieces, by James Pambridge, footman to his Grace. Model of Government Record-Office, by J. D. Didstone. Design for general Hospital, by H. S. Merrett. County Court-House, for Newcastle-upon-Tyne, by Grainger. Model, by William Bardwell, of a design for a public building, and which he modestly calls the parent of St. George's Hall, Liverpool—the truly grand and original design of the lamented Elms, an architect and artist of true originality and genius, and the parent of whose building was his own ideal, his inate perception of grandeur of proportion and beauty of design laboriously and carefully trained and cultivated. For the rest, there are card-board models of York Minster, by Middleton, architect, Darlington; one of St. Paul's, by H. S. Scollish, Birmingham, in card-board, cut with a knife, and composed of 50,000 pieces—a labour, it seems to us, in vain, as a model of equal utility could have been made at far less cost of time.

In a corner of this table is placed a miniature model, in wax, by Montanasi, late a citizen of Mexico, of a man dying in the last stage of consumption. Why placed there, we know not; but, though wondrously true to the worn and grasping death-flushed skeleton of one wasted by that slow devouring disease, it is misplaced, and should, we think, be removed to some place where people might take their choice as to seeing it.

The last object we have to mention is the restoration of the ancient harp in the Trinity College Museum, Dublin, and which goes by the name there of the harp of Brian Boroibme. Be it an instrument that the King's fingers touched, or bard ever sang to before him in hour of feasting or victory or not, it at all events has some look of music in its form, and is worth a study by Erard and others, who have laid on elaborate gilding and ornament instead of such harmonious graceful curves as those of this old kingly instrument.

THE HALIFAX COURT.

HALIFAX is precisely one of those seats of industry, that, in proportion to its importance, can make but an indifferent display at the Exhibition. It dyes yarns for all Yorkshire, and makes a vast quantity of articles, of which we have already spoken at length in our description of mixed fabrics, both for the home and foreign markets.

The show of goods from Halifax is not large, but it fairly enough represents the industry of the town, and there was no purpose to be gained by any more extensive display. The exhibitors are James Akroyd and Son, who, in a neatly-arranged frame, show the several descriptions of yarns used in the various articles of manufacture: carded and combed twofold yarns, two and threefold genappes, imitation genappes, genappe warp and weft, combed, fourfold combed, and carded; embroidery yarn, and single and double yarns, carded: and in finished fabrics they have damasks in the several mixtures of silk, cotton, and wool, some of them exceedingly rich in colour and design; Orleans cloth, merinoes, Coburgs, camlets, serges, shaloons, lastings, &c.; various mixtures of alpaca, first introduced in the neighbouring town of Bradford, by Titus Salt, in 1835, when he bought a parcel which had lain long on the importer's hands, and was beginning to be thought useless, though it is now so largely used that the price has risen from 8d. and 9d. per lb. to 2s. 3d., and even at times to 2s. 6d. and 2s. 8d. This firm are the largest producers in the town; and some idea may be formed of the extent of their operations from the fact that they pay wages to the amount of £150,000 per annum. William Brown and Messrs. Hoadley and Pridie exhibit table-covers, bombazins, damasks, and Coburg cloth; and Holdsworth and Co., amongst other articles, richly printed woollen-hangings, brighter, softer, and with the same style of pattern as the ordinary chintzes. Baraclouth and Sons, wadding, seven stamped table-covers, printers' blankets, &c. The other exhibitors are J. Clay and Sons, and M. Ward, of Sowerby-bridge; H. C. M'Crea and Co., Limbrook Mills; J. Alred and Sons, and Sheppard and Perfect, Halifax.

Clothworking first found a place at Halifax in the commencement of the fifteenth century, and, aided by water communication with both Hull and Liverpool, it has risen rapidly since the introduction of the power-loom and the use of mixed fabrics.

The town, which is almost entirely built of stone, is prettily situated on a gradually rising ground, in the midst of a group of hills, and the scenery of the neighbourhood is varied and beautiful. The population of Halifax, in 1801, was 63,434; and in 1841, 130,743.

DINNER TO MR. FOX, AT DERBY.

ON Saturday, the inhabitants of the town of Derby entertained Mr. Fox, their fellow-townsman, head of the firm of Fox and Henderson, at a public dinner, in honour of his great achievement, the Crystal Palace. The occasion must have been a peculiarly gratifying one to that gentleman, to his brother, who is this year, for the third time, mayor of the borough, and to all his friends, who flocked around him to testify their admiration of his successful labours and their respect for his private character. Mr. Paxton had been specially invited to be present, and came accordingly. Mr. Henderson was prevented from attending by his delicate state of health. As to the rest of the company, it comprised many of the chief guest's most respected townsmen and

MR. FOX, CONTRACTOR FOR THE CRYSTAL PALACE.

friends, and was in all respects a very gratifying muster. About 150 gentlemen sat down to dinner, and Mr. Douglas Fox presided in a manner which did him the utmost credit. Among those present, besides several of the town and county magistracy, were Mr. Bass, M.P., Mr. Heyworth, M.P., the Right Hon. Edward Strutt, Mr. Mozley, Mr. J. Cochrane, Mr. J. B. Tomalin, Mr. Jobson, Mr. Cooper, Dr. Wyld, Mr. W. E. Mousley, Mr. Low, and Mr. Crampton. The dinner took place at the Royal Hotel, and was worthy of the occasion. At its close,

The Chairman gave the usual loyal and constitutional toasts, which were received with great applause.

Mr. Mousley then proposed, in highly laudatory terms, the health of the guest of the evening, Mr. Fox, which it is almost unnecessary to say was received with the utmost enthusiasm.

Mr. Fox rose and said—Mr. Mayor, my dear friends, and fellow-townsmen: In rising to return thanks for the very handsome manner in which you have been pleased to drink my health, I assure you I feel far more difficulty and embarrassment than I ever experienced at any period during the construction of the Crystal Palace. It is impossible to express my feelings upon this the most delightful occasion of my life, when so much more has been said than is deserved, and so kindly said, in praise of the manner in which the work has been carried out by my good partner, Mr. Henderson, and myself. Whatever may have been the weight of care and responsibility under which I have lived for the last twelve months, I am amply repaid for it all in the perfect success which has hitherto attended the progress of the Exhibition, in the approbation expressed by our gracious Sovereign, in the kind congratulation of all my friends, and now in the enthusiastic and heartfelt manner in which the toast has been responded to by this distinguished assembly of my fellow-townsmen. This handsome acknowledgment of my labours is doubly gratifying to me from the pleasure it will afford among other members of my family—to one who, from a residence of 60 years in Derby, is beloved by many of you, and for whom I cherish the strongest filial affection; and to my brother, Mr. Douglas Fox, whom, in proof of the respect entertained for him, you have called upon for the third time to fill the office of chief magistrate in your town. But would that one were here who from my earliest childhood was my benefactor and friend—to whom, on again visiting my native town, my mind naturally reverts—one whose life was spent in a continual desire to benefit the town of Derby—who was always the patron of art and manufactures, and the best friend of the people, and who, of all others, would have gloried in the success of the Great Exhibition. I need not say that I allude to the late Mr. Joseph Strutt.

Before entering on a brief history of the Building, I wish to state, that it is to Mr. Paxton's idea of a palace of iron and glass, which it has been my lot to mature and realise, that the public are indebted for the present structure in Hyde Park; and that gentleman proudly acknowledges, that, but for the enlightened views of the Duke of Devonshire, the Lord-Lieutenant of this county, and his Grace's princely expenditure at Chatsworth, the idea of such a building might never have been entertained.

In June, 1850, the Royal Commission invited contractors to tender for a building to be erected in Hyde Park, in conformity with plans and specifications prepared by the Building Committee.

The Building, which was intended to consist principally of brick and iron, with a splendid dome in the centre, was considered of too permanent a nature for subsequent removal, and public opinion to this effect was very generally expressed.

In the printed conditions of tender issued by the Building Committee, the following clause was introduced:—

Tenders for methods of construction other than those shown upon the drawings, and described in the specifications will be entertained, but on condition only of their being accompanied by working drawings and specifications, and fully priced bills of quantities.

This invitation to parties to send in tenders, based not only on the committee's plans, but upon such other designs as they might wish to submit, induced me to believe that a tender for a building of glass and iron, as suggested to me, for the first time, by Mr. Paxton, on the 22nd June, 1850, just twelve months ago, an engraving of which was published in the ILLUSTRATED LONDON NEWS on the 6th July, would meet not only with the approbation of the Building Committee, but with that of the public at large; and I therefore went to Birmingham on the 28th June, and put in hand the drawings and specifications upon which our tender to the committee was to be based.

On the 2nd July, Mr. Cole, having heard of our intention to make an offer for a building of the kind, and feeling strongly that the success of the Exhibition depended upon having an attractive and suitable building, came down to Birmingham, at his own suggestion, but with the permission of competent authority, to stimulate us to proceed, and to offer such hints in reference to the requirements of the case as would enable us to make the conception of Mr. Paxton conform strictly to the condition of tender required by the Commissioners, and therefore most likely to meet with the approbation of the Building Committee; and I am of opinion, that to his spirited advice we are mainly indebted for obtaining an impregnable *locus standi* on the merits of our case.

In all this I had the co-operation of my partner, Mr. Henderson, who, feeling with me the value of Mr. Cole's suggestions, and the great importance in the preparation of these drawings, of conforming as much as possible to the arrangements adopted by the Committee in the plan upon which they had invited tenders, proposed the addition of the transept, in the propriety of which Mr. Paxton, after due consideration, entirely concurred.

Before completing our tender, and with a view to a more precise appreciation of the magnitude of a building covering 18 acres—1850 feet long, 408 feet wide, and 64 feet high, irrespective of the arched roof of the transept—I walked out one evening into Portland-place; and there setting off the 1850 feet upon the pavement, found it the same length within a few yards; and then, considering that the building would be three times the width of that fine street, and the Nave as high as the houses on either side, I had presented to my mind a pretty good idea of what we are about to undertake, and I confess that I considered the difficulties to be surmounted in constructing that great Palace were of no ordinary kind; but feeling confident, that, with great energy, good arrangements, and a hearty co-operation on the part of our extensive and well-disciplined staff, it might be accomplished, and that upon it depended in all probability the success of the Exhibition, we determined to undertake the responsibility; and the opening on the 1st May has proved the correctness of our conclusions.

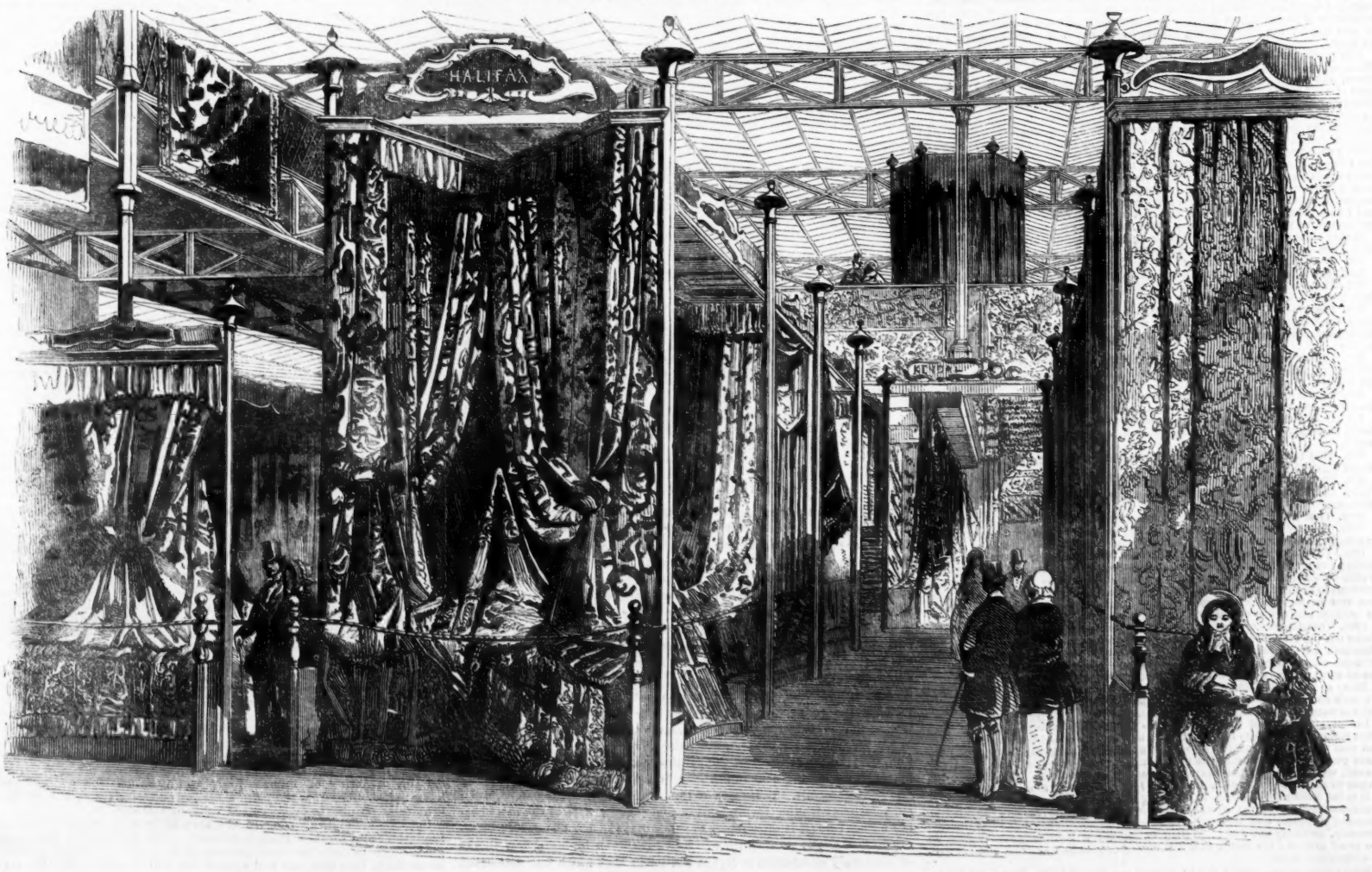
The plans and specifications prepared by us in great haste were submitted to the Commissioners, together with a tender, on the 10th July; but, though sufficient to enable us to bring the subject before them, and to convey to their minds an idea of what we proposed to erect, they were necessarily very incomplete, and did not contain either sufficient architectural or mechanical detail to admit of their being used in the execution of the works. The arched roof was afterwards added to the design, and submitted to the Commissioners on the 13th July, with the view of getting over a difficulty which existed in consequence of the elm trees being too tall to be covered by the flat roof proposed by Mr. Paxton.

These trees were, as Professor Cowper stated in his admirable lecture on the last day of the past year, "John Bull's Trees of Liberty," upon which, for some reason, he had set his heart in preference to all others, and would not consent to their removal. For the expense attending the addition of the arched roof to the transept, Fox, Henderson, and Co. did not increase the amount of their former tender, and it was consequently executed at their sole expense.

The Building Committee, having had the matter under their consideration from the 15th to the 25th July, resolved unanimously to recommend the Commissioners to accept our offer for the building with the arched roof, and nothing could be more disinterested than their conduct in setting aside the drawings and specifications which, with much labour, they had prepared, and adopting others, which, though laid before them in so imperfect a state, presented to their minds, as experienced engineers and architects, the mode of constructing a building of iron and glass better fitted for the purposes of the Exhibition.

On the recommendation of the Building Committee, the Commissioners on the 26th July were pleased to signify their wish for us to construct the building, but were met by a difficulty which threatened to postpone for a year, if not to put an end to the Exhibition altogether.

The Solicitor to the Treasury gave as his opinion, that, until the Commissioners had obtained a Royal charter, they could not legally proceed, and were therefore not in a position to give an order to any one. These circumstances were explained to us by Lord Granville on the 26th of July, in the presence of the Commissioners, who at the same time told us that it was their fixed



HALIFAX COURT.

intention to apply to Government for the charter, and he had every reason to believe it would be granted; and having informed us that as soon as they were a legally constituted body they would probably conclude a contract with Fox Henderson, and Co., finished by asking whether under these circumstances we should consider it running too great a risk to enter at once upon the execution of the work, as otherwise many weeks would unavoidably be lost, and the chance of opening the Exhibition on the 1st of May placed beyond possibility. In reply to his Lordship's inquiry, seeing the imperative necessity for immediate action, and desiring to render all the assistance in our power in furtherance of the important objects of the Exhibition, we expressed our willingness to run the risk, whatever it might be, and without waiting for the charter commenced at once the drawings and the necessary operations for the erection of the building.

As the time for the execution of the Building was so extremely limited, and being well aware, from experience, that when matters of business had to be decided by a committee composed of many persons, much valuable time was generally wasted, we requested the Commissioners, instead of referring us to the Building Committee, to select one of its members, either the chairman, Mr. Cubitt, President of the Institution of Civil Engineers, Mr. Robert Stephenson, or Mr. Brunel, and give him absolute power to settle with us finally all matters connected with the arduous task we were then willing to enter upon. The Commissioners, appreciating the importance of this request, appointed Mr. Cubitt to fill this office.

It was now that I commenced the laborious work of deciding upon the proportions and strengths required in every part of this great and novel structure, so as to ensure that perfect safety essential in a building destined to receive millions of human beings—one so entirely without precedent, and where mistakes might have led to the most serious disasters. Having satisfied myself on these necessary points, I set to work and made every important drawing of the Building as it now stands with my own hand; and it was no small source of gratification to me, when asking Mr. Cubitt to look over the drawings I had prepared, to find that he not only had no desire to suggest alterations, but expressed his entire approbation of them all.

The Commissioners having carefully considered the merits of the various sites proposed for the Exhibition, amongst which may be named Leicester-square, Somerset House, Trafalgar-square, the Isle of Dogs, Battersea-fields, and Regent's Park, selected, after the most careful consideration, a portion of Hyde Park situated between the Serpentine River and the Queen's Drive, and gave us possession of the ground on the 30th of July, when we proceeded to take the necessary levels and surveys, and to set out with great precision the position of the various parts of the Building.

The drawings occupied me about eighteen hours each day for seven weeks, and as they came from my hand Mr. Henderson immediately prepared the ironwork and other materials required in the construction of the Building.

As the drawings proceeded the calculations of strength were made, and as soon as a number of the important parts were prepared, such as the cast-iron girders and wrought-iron trusses, we invited Mr. Cubitt to pay a visit to our works at Birmingham, to witness a set of experiments in proof of the correctness of these calculations. We first placed upon each part the greatest load it could ever in practice receive, and proceeded to show that above four times that load was required before fracture would occur. These proofs were made on the 6th September, when Mr. Cubitt was pleased to state that he never witnessed a set of experiments of a more conclusive nature. Being thus satisfied by actual experiment that the proportions of the various parts of the Building were such as to ensure perfect stability and safety, the preparation of the ironwork and other materials was pushed forward with the greatest vigour, and large deliveries were made in the Park within the next three weeks; so that on the 26th September we were enabled to fix the first column in its place. From this time I took the general management of the Building under my charge, and spent all my time upon the works, feeling, that, unless the same person who had made the drawings was always present to assign to each part as it arrived upon the ground its proper position in the structure, it would be impossible to finish the Building in time to ensure the opening on the 1st of May; and I am confident that if any other course had been taken, or if, as is usual in the construction of large buildings, the drawings had been prepared by an architect, and the words executed by a contractor instead of, as in the present case, these separate functions being combined by my making the drawings and then superintending the execution of the work, a building of such dimensions could not have been completed within a period considered by experienced persons altogether inadequate for the purpose.

The erection of the Building, now fairly commenced, was pushed forward with all possible speed, and a good notion of the amount of work may be obtained from the fact that at one period we fixed as much ironwork every day as would be required in a roof of equal extent to the passenger station of this town, which is one of the largest in the kingdom.

It was not until the 31st of October that the contract with the Commissioners was completed; up to which time we not only had received no order for the Building and no payment on account of the work we had done, but we had run the risk of expending upwards of £50,000 without being in a legal position to call upon the Commissioners for any portion of the sum we had so expended; and such was the appreciation of our conduct in this matter, that Lord Granville was pleased, in the presence of the other members of the Commission, to state, on the 6th of November, that they were of opinion, that, but for the courage evinced by Fox, Henderson, and Co., in commencing the work without any order from the Commissioners, the Exhibition of Industry of all Nations would never have taken place.

Perhaps the most difficult and hazardous, and certainly the most interesting portion of the work, was raising the sixteen ribs of the Transept to their places. A month was the shortest time assigned by any one for this operation. We commenced on the 4th of December, and succeeded in raising two in the course of that day.

Two more were safely deposited in their places in the presence of his Royal Highness Prince Albert on the following day, and the last pair on December the 12th; so that the sixteen ribs were all placed in eight working days.

As the Building progressed, I was assailed on all sides, not only by unprofessional persons, but by men of high scientific attainments, who, notwithstanding the careful calculations which had been made, and the satisfactory proofs to which all the important parts were individually subjected, as soon as these parts were put together, producing a structure of unparalleled lightness, doubted the possibility of possessing, as a whole, that strength which was necessary to make it safe against the many trying influences to which it must necessarily be subjected.

One gentleman, after complimenting me upon the beautiful appearance of the Building, stated his belief that it would never come down unless it tumbled down, and which he had no doubt, in his own mind, it would; or that the first gust of wind would blow it down like a pack of cards. Another, holding a high scientific appointment under Government, after a long investigation of the various parts of the Building, expressed, at the Institution of Civil Engineers, a belief in the entire want of safety in its construction; and after explaining the mode of connecting the girders with the columns by means of projections technically called snugs, went on to indulge in an *airy* prophecy that a wind exerting a force equal to 10 lb. per superficial foot would bring such a strain upon these snugs as to break them all off, and cause them to fall down in shewers. I may just remark, that, since the expression of this opinion, the wind gauges around London have registered, in the late storms, upwards of 20 lb. per foot; and I have pleasure in informing you that the encouraging predictions of this gentleman, as well as those of many others, have not yet been fulfilled.

It may be amusing and not uninteresting to enumerate, briefly, some of the difficulties and dangers which were foretold.

1st. We should never get through our work in time.

2nd. The foundations were defective, and would surely give way.

3rd. The Building was more like scaffolding than anything else, and was so light that it must tumble down.

4th. The weight of goods and people in the galleries would be sure to bring down the Building; and, if the mere weight did not produce the effect, the vibration caused by people walking, or more especially running, would be sure to do so.

5th. The girders expanding by the heat of the sun would push the columns out of their places, and in doing so would be sure to break them and let down the Building.

6th. That if it should happen that the weight and vibration did not produce the effects expected, the equinoctial gales would, at all events, finish the business.

7th. That if the Building was not blown down, the sashes or windows were so feeble that they would assuredly be blown in, or out, but it was difficult to say which.

8th. That the glass was so weak that it could not resist a gale of wind, but would inevitably be blown to pieces.

9th. That if the wind did not act as was expected, firing cannon in Hyde Park, on the opposite side of the Serpentine, could not fail to demolish the windows.

10th. That the first hailstorm would leave the whole roof without glass.

11th. That by the vibration of the moving machinery the Building would be gradually shaken loose in all its connexions, and must consequently fall down.

12th. That such were the fears entertained for the safety of the galleries containing the large organ and choirs, that a request was made to Dr. Henry Wylde by some members of the Jury for Musical Instruments, that he would, previous to the inauguration, urge upon my mind the necessity for an investigation into the results likely to ensue from the effect of the vibration which would be brought into action during the performance of the National Anthem.

13th. That the vibration caused by the diapason pipes of the large organ would shake out the glass, which would fall in showers upon the spectators; and our chairman was accordingly instructed by the Commissioners to make experiments with the view of ascertaining what the result would really be, and these experiments were officially made on the day previous to the opening.

Many of these misgivings appeared in the newspapers, and one foretold that we were on the eve of a frightful catastrophe, but wisely abstained from pointing out the nature of the danger we were running.

In fact, statements of this kind were so frequent and pointed, that we were often seriously advised to reply to them; but feeling confident we were right, and that we should succeed in all we had undertaken, and that consequently the more people spoke against us the more complete would be the reaction in our favour, we abstained from taking any notice of what was said—leaving the public to amuse themselves in the matter in any way they thought proper.

It is far from my intention, in speaking lightly of the past predictions, to taunt the public with the mistakes of a few over-anxious friends; but, after so excellent a dinner, one feels too good-humoured to discuss such little troubles seriously, or to say more of them than to express a legitimate satisfaction in the proof given by the event, that it is often easier to talk of great matters than to understand them.

Before concluding, permit me to present my thanks to Mr. Barry, for his invaluable improvement in the architectural beauty of the Building; to Mr. Owen Jones, for his many beautiful designs for the embellishment of the Building, and to whose taste in decorative art is owing that splendid appearance which has charmed the eye of every spectator; to Messrs. Cochrane and Co., and Mr. Jobson, for the energetic manner in which they prepared the castings; to Messrs. Dowson and Co., for their promptitude in delivering the timber; and to Mr. John Cochrane, and all persons in our employ connected with the work, for their willing services, so indispensable in carrying out a contract of such unexampled magnitude. When the Royal Commissioners confided to us the construction of the Building for the Exhibition of Industry of all Nations, I felt in some degree the credit of England was in our hands—that we had it in our power to achieve that which would prove eminently successful—or in failing to do so would be a source of the most serious disappointment and disgrace—and that we were therefore bound, by considerations of no ordinary kind, to exert every effort in our power to carry the work to completion in the shortest possible time, and at any personal sacrifice, and without regarding the question of expense, the more especially as his Royal Highness Prince Albert had invited the World to this great festival of the 1st of May; and it was essential, as a point of national honour, that this vast edifice should be ready for the reception of his guests. I need not remind you that we completed the contracts, and that our beloved Sovereign presided at the inauguration on the day which had been originally appointed.

I feel a peculiar pleasure in having carried out this great undertaking in the consideration that it is not a temple in which the representatives of nations will meet together for the purpose of adjusting matters of strife, or questions of warfare, but one in which the Prince has invited all the family of man to assemble in harmony and good-fellowship, and where juries composed of distinguished foreigners and Englishmen meet together as friends to decide upon the comparative merits of those beautiful objects of art and manufactures which are the happy results of peaceful commercial emulation.

It is no small honour to England to have set this noble example; and here let me quote a few beautiful lines from Mr. Cole's introduction to the Catalogue, which appear to me so descriptive of England's high position and of the feelings which all should cherish when viewing the collections of the world's productions:—

"It may be said without presumption that an event like this Exhibition could not have taken place at any earlier period, and perhaps not among any other people than ourselves. The friendly confidence reposed by other nations in our institutions; the perfect security for property; the commercial freedom, and the facility of transport which England pre-eminently possesses, may all be brought forward as causes which have operated in establishing the Exhibition in London. Great Britain offers a hospitable invitation to all the nations of the world to collect and display the choicest fruits of their industry in her capital; and the invitation is freely accepted by every civilized people, because the interest both of the guest and host is felt to be reciprocal. * * * The work is done, and the collection made of the productions of 15,000 exhibitors, working with the ability God hath given them. To these we may say with St. Paul, 'In lowliness of mind let each esteem others better than themselves,' and to spectators we may reiterate the hope expressed by the Prince, that 'the first impression which the view of this vast collection will produce, will be that of deep thankfulness to the Almighty for the blessings he has bestowed upon us already here below; and the second, the conviction that they can be only realised in proportion to the help which we are prepared to render to each other; therefore, only by peace, love, and ready assistance, not only between individuals, but between nations of the earth.'"

Again thanking you for the honour you have this day conferred upon me, the recollections of which will never be effaced from my memory, and also for the kind patience with which you have listened to my remarks, I conclude by wishing you the long enjoyment of health and of that happiness and prosperity which are the sure results of those enlightened views which are fast spreading over the world, and which the people of Derby have been among the foremost to advance.

The next toast given was the "Health of Mr. Paxton," which was proposed in highly complimentary terms by the Mayor.

Mr. Paxton returned thanks at some length; and, in the course of his observations, alluded to the unexpected risk which the Crystal Palace had run from the recent balloon ascent.

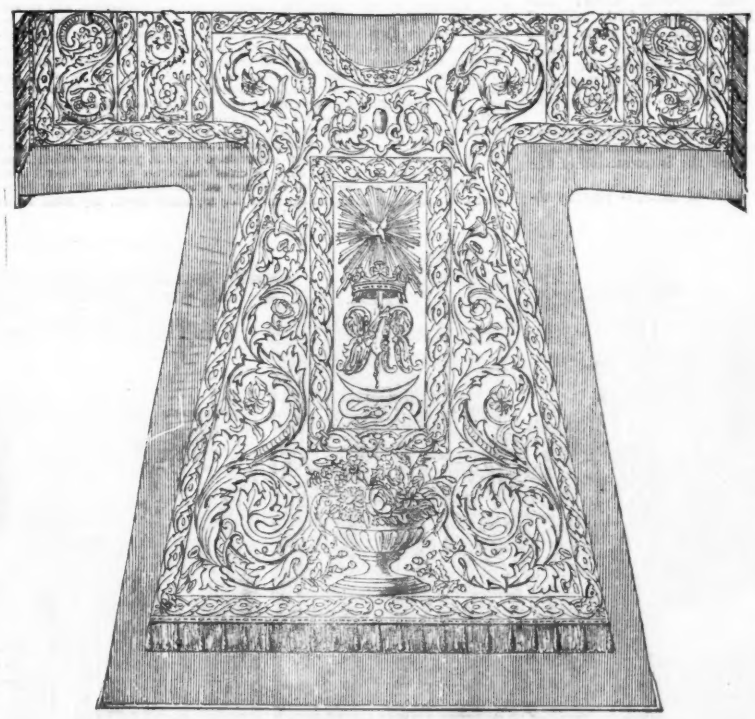
A great variety of toasts followed, and the company separated highly delighted with the opportunity afforded them of testifying their admiration for the character and the talents of their now distinguished townsman.

[We hope to be able to present our readers with an authentic Memoir of Mr. Fox in an early Number.]

ECCLESIASTICAL VESTMENTS. BY HALLE.

We engrave two other specimens of M. Hallé's rich embroidery for ecclesiastical costume. The designs are very elaborate, but of course must mainly depend for their effect upon the costly material in which they are worked.

MITRE.—VAN HALLE, BRUSSELS.



PRIEST'S VESTMENT.—VAN HALLE, BRUSSELS.

EGYPT AND TUNIS.

We now pass from the Asiatic to the African continent, and propose to take a survey of the contributions of Egypt and Tunis to the Exhibition, the former of which, in addition to their intrinsic merit, are interesting from the imperishable halo of association that surrounds the land from which they come—a land which has been the seat of four civilisations, essentially differing from each other, and spread over the lapse of 4000 years; for while Italy and Greece have been at particular periods more resplendent by cultivation of the arts, Egypt is the only country that still shows in its monuments distinct traces of four successive epochs of civilisation—a Pharaonic, a Greek, a Roman, and an Arabic. This, no doubt, springs from the peculiarity of its physical geography, as a country of vast territorial wealth within a narrow space, and forming the connecting link between the Red Sea and the Mediterranean; while to the Englishman, more than to any other inhabitant in Europe, Egypt has become, since the development of steam navigation, that portion of the East the political condition of which bears most immediately on the communications between our vast Indian empire and the metropolis. There was a time, and that not long since, when our relations with the Government of that country were of the most hostile nature; but it is satisfactory to think that the most amicable intercourse now reigns between them. No Englishman in his senses thinks of a military occupation in Egypt similar to that which was attempted by France. The objects of the British Government limit themselves, first, to the exclusion of any European power from military possession of the key of the Mediterranean and Indian seas; secondly, to the development of our commerce in Egypt; thirdly, to the facilitation of the Overland traffic. And it is satisfactory to find, that the present Pacha shows every disposition not only to promote and protect our passenger traffic, but to cultivate the most amicable relations with the Government and inhabitants of this country.

In Egypt the extraordinary change that has been imprinted upon the administration, the commerce, the agriculture, and the manners of the higher classes (for those of the great majority of the people remain untouched) has been effected by the will of one *man*. It is true that Mahommed Ali sometimes misapplied his resources, but there can be no doubt of the extraordinary mental activity of the individual; there can be no doubt that all the productions of Europe have been subjected to study—that their application to European commerce has been tested, that the climate and soil have been studied, and that vast numbers of experiments have been made in the vegetable world, and that many plants have been successfully naturalised, while the indigenous products have been much improved in quality.

The Nile is the great feature of Egypt; let us, therefore, begin with the upper country. Highest of all, are the articles from the Belledes-Asoudin, elephants' tusks, sections of ebony from Senaar, a rhinoceros horn, and other objects from the "land of the blacks," as the term means, of which the most valuable is gum. Upon this trade the genius of Mahomed Ali, remarkable as it was in many respects, had not a favourable influence; the European regulations and police, which he established with absolute power, rather frightened away than encouraged those who had objects of this description to sell from the interior of Africa; but, as the system of the present Pacha is less stringent, there is every prospect of an extension of this portion of the trade. And to this object, unquestionably, nothing would so much tend as the establishment of a fair, once every winter, at Essowan, which is the highest point that can be reached by steamers from Cairo, and is on the borders of Nubia.

In Upper Egypt itself, the principal objects of production are dates, corn, sugar, and Indian corn; the first of which is the most striking feature of the Egyptian landscape, and which is almost as familiar to the eye of the European by thousands of faithful representations as to the Egyptian himself. On closer examination of the vases in which they are kept, we see the varieties of their colour, some being of a dark red, some of a light brown, and others of a cream colour. Not only is the date an excellent food for the common people of Egypt, but we see in this Exhibition illustrations of the varieties of purposes to which they are applied: here are the crates of the branch of the palm; the fly-flappers of palm leaves, used by servants while the masters dine; and, moreover, specimens of the cordage into which the palm fibres are made, and a coarser description of which is in universal use in the Nile boats. When we add, that the trunk of the palm is used for timber, that the nuts are used both as camel fodder and as a combustible for the preparing of human food, and that, moreover, a tenacious hairy sort of fibre from the palm is used in cleansing the skin in baths, it is scarcely possible to over-rate the value of this tree.

Sugar-canes and sugar-loaves are also to be seen in the Exhibition, the latter from Ibrahim Pacha's refinery. This remarkable man made great efforts to push the sugar cultivation in Egypt, for which there can be no doubt that both soil and climate are well adapted; but the great proportion of the sugar used in Egypt is still imported from Europe; for

whatever the will of Ibrahim Pacha may have been, or whatever may be the natural capabilities of Egypt, the incurable indolence of the people, and their indisposition to labour, seem to be an invincible obstacle to Egypt ever competing with Europe in price and quality as far as this article is concerned. The true calling of Egypt is, unquestionably, that in which Nature herself—the Sun and the Nile—have the largest share in production. It is by her wheat, her cotton, her beans, her barley, her sesame, her linseed, and her flax, that Egypt can increase her wealth with certainty. It is agriculture and commerce, not manufactures, that Nature has assigned to Egypt in the territorial division of labour.

Of these the most important is certainly cotton, from the great extension of its culture during late years. We particularly recommend attention to a specimen of Sea Island cotton, cultivated by Mr. Larking, in the environs of Alexandria. This ingenious gentleman has devoted many years to the horticulture and agriculture of the Egyptian climate, and has been the means of reclaiming from the lake Mareotis a large tract of land, which would have been otherwise useless, by diverting from the canal a portion of fresh water, which, washing away from the alluvial soil the saline particles, has left the earth cleansed and productive. He has also been at pains to introduce, upon a most extensive scale, the British system of agriculture, and the Belgian method of cultivating flax; but the inveterate habits of indolence and pilfering in the natives have prevented the experiment from being so successful as could have been wished.

In the Exhibition may be seen one of those curious machines with which the Egyptians conduct their agricultural operations (marked 174 in the Catalogue), which shews that the ease-loving countryman makes his own weight contribute to do the work, while he is saved the trouble of walking. The Catalogue states that the object of this machine is to sow seed; but, unless we are much mistaken, it is the machine used for the double purpose of thrashing corn and cutting the straw; the oxen performing a rotary motion until all the straw be cut and the corn squeezed out.

Of other vegetable productions may be seen specimens of opium and senna, which are well suited to the climate; tombak, which is used as a substitute for tobacco in the water-pipes; and rice, which is grown in very large quantities on the low grounds of the Delta, not far from the sea, and cleaned for the most part at Damietta and Rosetta, where mills have been established on the American principle with great success. Nor must we, in our list of vegetable products, omit the rosewater of the Fayoum, which is so frequently mentioned in the songs of the Arab poets, whole tracts of land being devoted to this culture, and in the season of plucking diffusing fragrance through the smiling land. It is also in the Fayoum (which is a district to the west of the Nile above Cairo) that are to be found the greatest quantity of olives, large plantations of which have been re-established by Ibrahim Pacha in various parts of Egypt, for the culture of olives had much fallen off under the Mamelukes.

The mineral productions are very numerous, the most magnificent of which in the Exhibition are the slabs of Oriental alabaster, from the quarries to the south-east of Cairo, in the Desert, and out of which material the columns of the new Mosque of Mohammed Ali, in the citadel of Cairo, have been constructed. There can be no doubt, that, if the value and the beauty of this mineral were better known in Europe, and if a railway, of however rude and cheap construction, could be established to Beni Souef, on the Nile, it might become an article of export of the greatest importance. As a native manufacture, having a mineral for its component, we may also draw attention to the porous water-bottles made at Gheneh, on the Nile, which are in universal use in all parts of Egypt. If we descend the Nile to the entrance of Cairo, we see another mineral production, in specimens of the petrified forest of a valley in Mount Mokattam.

The Cairo articles must be regarded under two aspects—those which are indigenous, and those which have been introduced by the late Pacha, as subservient to his military and political system. The latter need not engage our attention, as they have no local colour, however evidentiary they may be of the superior mental activity of the family of the present Pacha. Of the former, we may direct attention to the saddles of crimson velvet, the padded one being most easy and convenient for riding, giving a good hold to the knee; but the high saddle is the most interesting, for it is of the same form as that in which Saladin and the Paynim host used to receive the shock of 'Frank Crusader,' the saddle of Negm-Eddin, whose name is so associated with the expedition of St. Louis to Damietta, being still an appendage of the Mosque, that, after six centuries, bears his name.

In no respect had Mahommed Ali, to leave his impress upon this country, been more successful than in his efforts to promote public instruction; and the schools he established in Egypt will unquestionably do more for his reputation than the wars in which he has been engaged. The printing-press at Boulak has been sufficiently described by travellers; and those who wish to see the Egyptian edition of the "Arabian Nights" entertainment, and other productions of typography, may do so; the works themselves being remarkable, not so much for their beauty of print and paper, in which they cannot compete with Europe, as for the excessive lowness of price.

The articles of dress are so numerous, and are brought in such quantities by travellers to this country, that we need not take up the reader's time any further; simply remarking, that, while many of the imitations of European manufactures have not been successful as pecuniary speculations that of Tunis caps, established at Fouah, has been in operation for many years, and has been eminently prosperous.

The Tunis department of the Exhibition is certainly coarse, and includes many articles of a rude description, but none is more faithfully and more truthfully characteristic. It, in fact, gives a stronger smack of Eastern life than anything else in this wonderful pile, and, in fact, it requires little or no description: it speaks for itself, and when we look at its shop, with leather bottle for holding water in the desert, its specimens of grain from the country that was once the granary of the Roman Empire, when we see its excellent, but unpretending, soap, made of olive lees and soda of the country; its sponge, which is so inferior to that of the Archipelago; its umbrella hats of watling to keep off an African sun, and its coarse culinary utensils, we feel that this is not the luxury of Damascus or Constantinople, still less of the gorgeous descriptive poets and romancers of the East; but it is Tunis itself, and so arranged as to produce a nearer approach to the illusion of foreign travel than any other portion of the Great Exhibition.

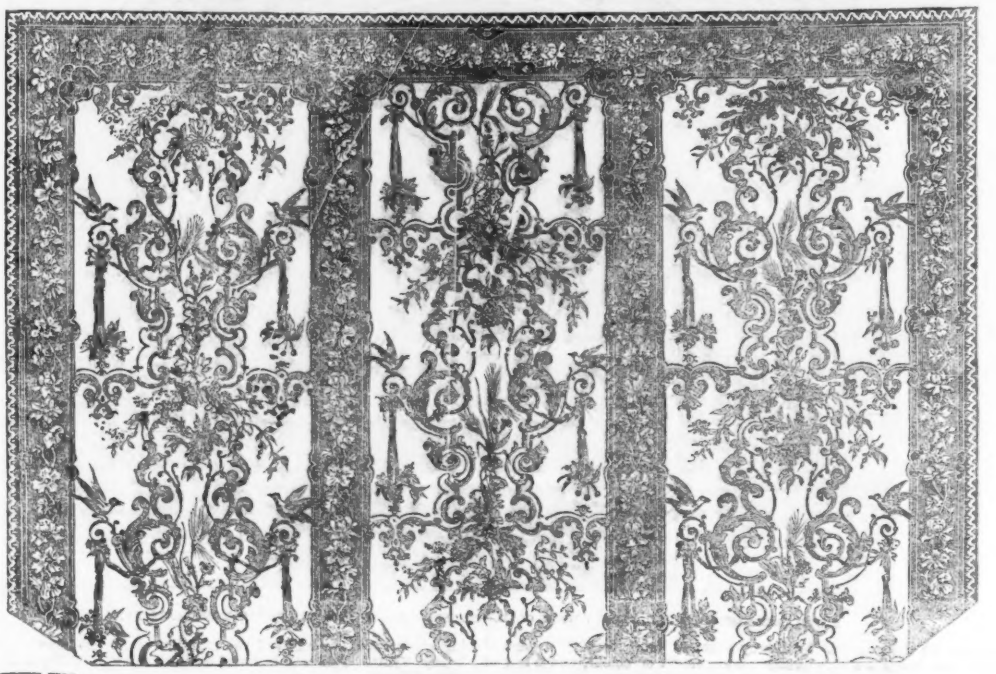
DECORATIONS, FURNITURE, &c.

A LITTLE reflection will show that the subject of furniture is infinitely more important in England than on the continent; because much more money is spent here, by the middle classes of all incomes, on the various branches of trade required to fit up a house, than is ever thought necessary in other realms. Whether upon marriage, upon taking another dwelling, or upon a plea of necessity, ladies are always ready to receive furniture from the factory to displace that which must certainly have one of two faults: either it is not fit to be seen, or it is not old enough to be valuable for its antiquity. The accumulation of this sort of property is surprising, for apartments are hardly considered to be well dressed until there is literally little chance of human motion, and no possibility of adding to the treasures. With the last century, too, expired the empire of fashions which, during the lifetime of the Sovereign whom they found upon the throne, reigned steadily over the whole of the community in solitary grandeur, without disturbance from any interloping modes; at present, the rapid succession of tastes, and of late years their contemporaneous existence, having allowed purchasers to render their saloons little more than museums for every phase of ornamental art, it becomes easy, by small additions, to incline the balance in accordance with a prevalent mania; but these additions are, for the same reason, constantly demanded.

The order in which various leading styles of decoration have re-appeared is tolerably uniform. Since the time of Louis XVI. we have had Roman, Louis XV., and Greek; then Gothic, Louis XIV., and Egyptian have followed as links of a chain terminating in Louis XV., Elizabethan, Louis XVI., Italian, Gothic, Louis XIV., and *Rénaissance*. Thus, in the species of Greek, or *par excellence* classic furniture, but two specimens of high merit have come under observation: one is the ebony table inlaid with silver, by Hancock (p. 499); the other is the chair by Jeanselmé (p. 427); both are carefully moulded upon antique ideas, and deserve consideration for their inherent unobtrusive elegance. They recal the Hope[s] fashion, as it was set by the predecessor of the present distinguished amateur; and are interesting to those who have not frequent opportunities of seeing the as yet undisturbed interior of some of the large houses which were furnished forty-five years ago.

We appear at this time to have just entered upon the last mode of the cycle, and of its merits the reader will be reminded by the Illustration (p. 371) of one of the largest works of this class in the Exposition, the side of a library, by Holland and Son. In spite of the unpleasant colour (which will disappear) of the newly worked wood, and of the perforated panels, there are about this, as also about nearly all other English specimens of furniture exhibited, three qualities which distinguish them in a very remarkable manner from nearly all their foreign companions. These three virtues, for such they fortunately happen to be, consist in fidelity of adherence to the style employed, in a peculiar feeling of design, and in undeniable superiority of execution.

No class enjoys so many opportunities of seeing the most *recherché* work as the Russian nobleman, when he is allowed to travel; and such a connoisseur, talking to an English acquaintance, was triumphantly proving, what our countryman could not see, that the Transept divides two, and only two states of feeling for decoration—the western one considerably mixed with elements foreign to it, but the eastern portion nearly free from any alloy of Anglicism; and he afterwards urged that there was no truly national taste in Russia and Germany, as Parisian fashions for every sort of ornament were always eagerly watched. Ten years of observation had not led to a false conclusion, and the reader is recommended to seek himself the outward marks of the difference. He will notice on one side great elegance of proportion, vivacity of light and shade, and wonderful fluency of design, mixing with a malicious, almost a wicked, carelessness as to whether a piece of furniture shall belong to any given style at all, or belong equally to three or four, opposed to sterner dignity, extreme breadth of light, and a remarkable air of usability, united, on the other hand, to a sometimes pedantic adherence to the peculiar features of the fashion which is followed. To sum up this train of thought, it will suffice to add, that a beauty in the one case and grandeur in its antagonist are attained; it must be left to the idiosyncracies of the spectator to decide which is preferable for himself. Taking, however, an eclectic view of the productions of each school, it will be a pleasant task to point out those productions which are best of their kind.



PAPER PATTERN.—MESSRS. TURNER AND CO.

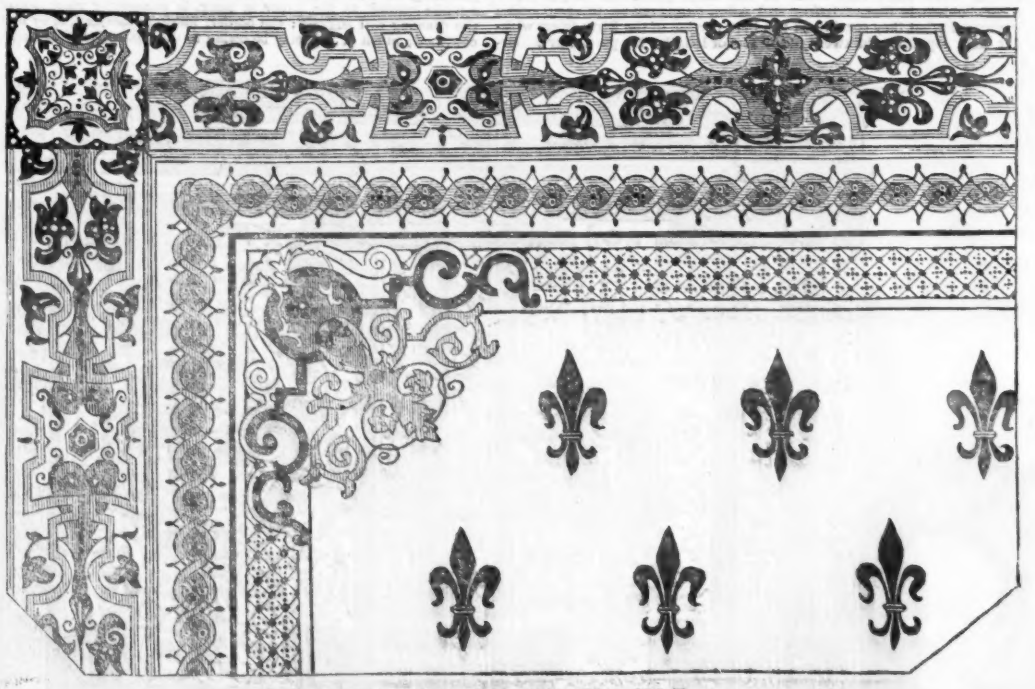
In the Eastern Nave, the bed, by Leistler, of Vienna (represented on p. 25), is not only one of the most sumptuous productions, but is also grander than any of its English fellows; it is, indeed, a state bed, being eleven feet long by nine feet wide, and thirteen feet high, made of zebra wood. It is an excellent example of the general criticism above enunciated: every portion is an isolated beauty; all are grouped with admirable skill to obtain relief by shadow, and (what no Briton would have been bold enough to put forward had he thought of it) the supports of the head are not like, though somewhat resembling, those of the foot. The head is occupied by a beautiful Angel of Peace in an arched niche, placed between panelled-work, and at the foot are representations of our first parents, whose place is sufficiently defined in the Engraving. The *putti* are really "little loves," and the ornaments are very effective. Here praise ends. While the foliage is Gothic, and the figures, with the decoration, Italian, the mass of the work is of modern *Rénaissance* feeling; neither do the wood and the work agree well, and the execution seems hurried. The canopy (in which horrible dreams are lurking) is a vast cavern's roof, a fault which shares in common with the English beds. One cabinet-maker, after looking at it minutely, said, "They have better tools than I thought."

Totally opposed in spirit is the amboyna inlaid table, by Caldecott (28), in an Elizabethan taste, and not a little marked with the dignity of simplicity which is attributed to the best efforts of London houses; the pretty arabesque border and centre have been enlarged on the same Engraving, and will serve to direct attention to the reality, which professes, as many other inlays profess, to be of unstained, *i. e.* self-coloured woods. This must be considered when similar works hereafter come into these pages.

The style of Louis XV. is represented in this sheet (page 28) by a pier-table and looking-glass of very considerable dimensions and pretensions, by Holland and Sons. It is one of those works which at once challenge grand drawingrooms for their only habitation: its height alone (12 feet) would prevent its entrance into many good town houses and the boldness of the design forces the spectator to retire as far as he, reasonably can, to see it all at once. Then it appears that the frame of the mirror, which is very carefully carved as bullrushes and other aquatic plants, with birds, does not quite harmonise with the noble stand of the pier-table: this, from the dexterity of its arrangement, appears far larger than it really is; and the reflection in the lower glass, making a complete circle, doubles the little orchestra which nestles at the base: here no trickery of workmanship is employed; the back is finished for equal effect with the front, which is in the very best period of the style. The shape of the glass frame must not be unnoticed.

A very little consideration will show that the beautiful little walnut-wood frames from Tuscany (page 522) are not very far removed from the group (page 28) produced in the East Indies, in so far as the fashion (Roman) of the time of our Charleses is concerned. The *Dalbergia latifolia*, or blackwood, somewhat resembling veined ebony, and new to cabinetmakers, has been worked at Bombay and Madras, from designs by the London carver, Logers, into a table, flower-stands, tea-caddies, a candelabrum, and cheffoniers: a specimen of each of the three last is before the reader. It is interesting to perceive that the native operatives have not conventionalised the details, but appears to have kept, more truly than the Chinese habitually do, to the spirit of the original. This, if correct, clearly betokens a feeling for art in our Eastern fellow subjects which may lead to serious, though by no means grave consequences.

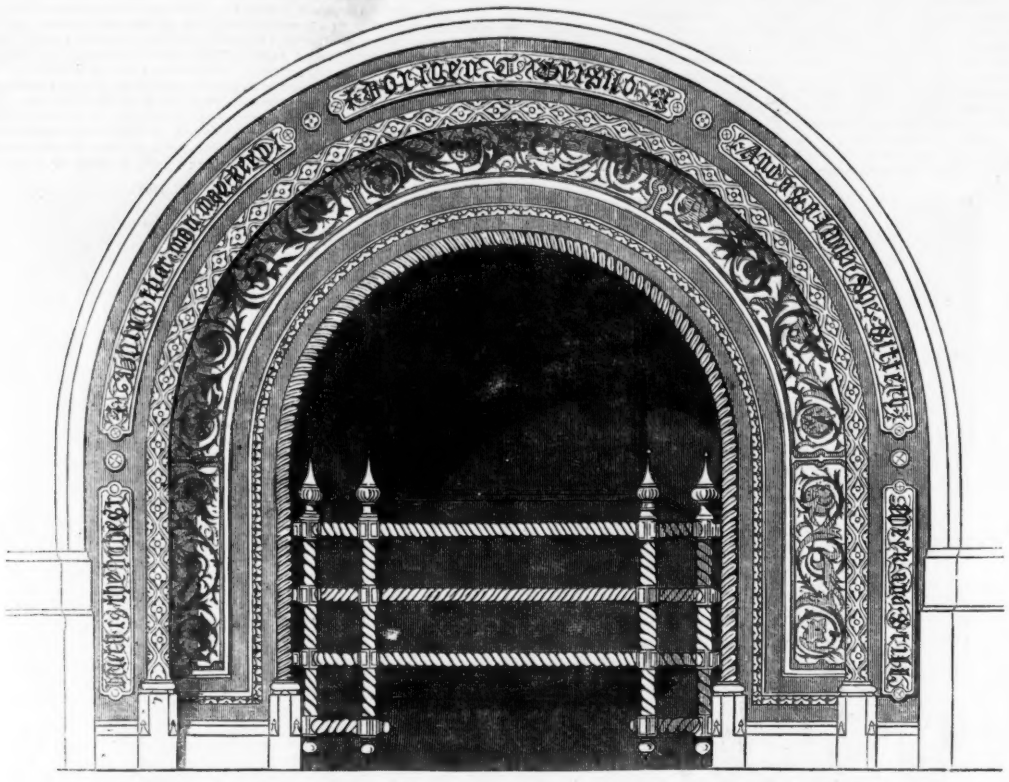
The Louis XVI. grate (page 427), by Pierce, on which considerable pains and thought have been bestowed, is a mass of brilliancy from the use of bright steel and or moulu, and is hardly so happy as usual in the



PAPER PATTERN.—SCOTT, CUTHBERTSON, AND CO.

fender; it is less attractive, therefore, to the critical eye, than the specimen (page 427) exhibited by Baily and Sons. Their style (Italian) has been happily chosen as admitting the introduction of glazed tiles, with floral devices. The dogs merit the honour (page 426) awarded to them, of a separate Illustration; the eagles being very carefully and spiritedly modelled; but the lower or moulu portion, which contrasts strongly with the silvery globe, is ill better worked. But the grate by Jeakes (page 24) is one of the most chaste and novel that has appeared for a considerable time. Steel, inlaid with yellow ornaments, is again the mode of manufacture; but, in effect, it is very different from those just mentioned. The position which it is destined to occupy is indicated at page 394, where the other portions of the decoration account for the peculiar phase of the Elizabethan style which has been employed. The fender is equally an object of merit for its variation from the usual arrangement of such objects.

Bach sends from Paris two window-blinds, or transparencies; one consists of a landscape, of which the most prominent features are a peacock seated on a pedestal, and also a vase of flowers placed on the same pedestal: this is far less creditable than the other (shown on p. 28), in which all the necessary light has been kept in the flowers



STOVE, BURNISHED STEEL, INLAID WITH GOLD.—MESSRS. JEAKES AND CO., GREAT RUSSELL-STREET.

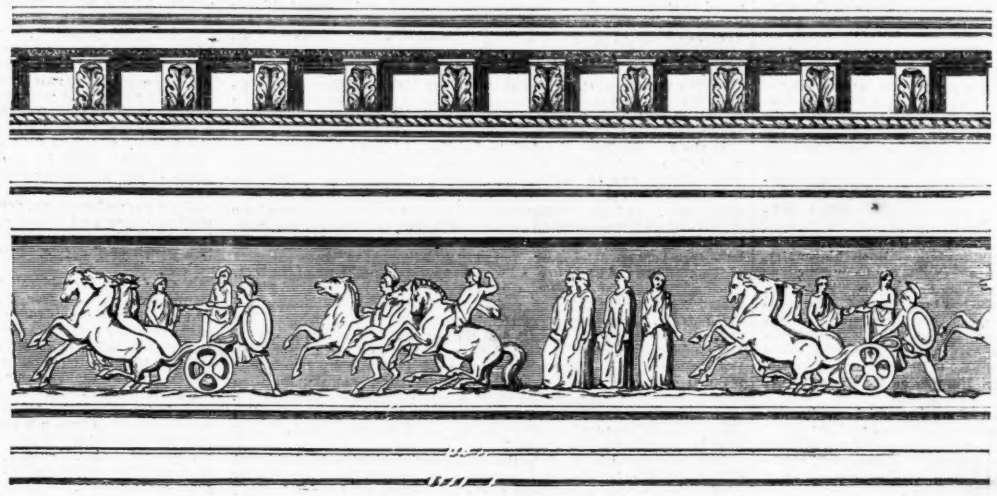
gaining all their natural brilliancy without losing breadth or general light; the design is a very pretty arrangement of colour, and is full of it, as, according to the Watteau style, it ought to be.

There does not seem to be any good reason for stating that the manufacture of paper-hangings, printed from blocks, can be traced earlier than the 17th century, when flock and coloured papers are sufficiently described to show that they were in their infancy; at the end of the century, however, they had grown to be an object of Parliamentary attention, and were taxed.

This did not so much impede their progress, and in 1770 the English makers taught the French, whose execution and design were inferior; and they retained their superiority until the last fifty years. From that period, paper-staining has been a favourite branch of manufacture in Paris, and it is only within the last ten years that the London houses have begun to re assume, if not their superiority, at least their equality: at present, a French maker expresses his opinion that there are no very wonderful specimens in the Building, and that the continental are certainly equal to the English works.

In 1754, Jackson, of Battersea, a manufacturer, published a pamphlet on the invention of printing in chiar' oscuro, and its application to paper-hangings, which he executed in imitation of the most celebrated classic subjects; and various attempts have since been made in the same path: the last, and one of the boldest, is that of Jeffrey and Allen (engraved on this page), who have used what they considered the best portion of the Elgin frieze without any repetition, in twenty-four feet of length: the particular colouring appears to have received the attention of Messrs. Owen Jones and Digby Wyatt. This will be found on the south side of Bay E 75 (on the ground-floor).

Scott, Cuthbertson, and Co. show a simple and handsome Tudor panelling in the Eastern Gallery. The effect of the gold upon a white ground, as the paper is hung, is necessarily much softer than the drawing will suggest: the border, however complex, is by no means confused; much of this may be owing to the quantities of colour, which, as in their other paper already illustrated (p. 498), is a bold attempt at reconciling apparently equally forcible colours.



PAPER HANGING.—JEFFREY AND ALLEN.

Turner's *cerise* pattern is particularly elegant and lady-like. These patterns demand unusual attention, on account of the precision claimed for the manual labour of printing the blocks. The test is very simple, and the same part of the sheet of paper may receive ten or a dozen blows from the blocks without slipping, or causing a faulty impression.

CARVED BRACKET.—ROGERS.

This pattern is a design by Marchand of Paris. Underneath it will be seen two patterns, which possess the property of altering their appearance as the eye of the spectator moves, becoming alternately light on a dark ground, and dark on a light ground patterns. This effect of "glancing," as it is now termed, has not been introduced by this house so much as twelve months, and is still a novelty. They are in the same South Gallery (France).

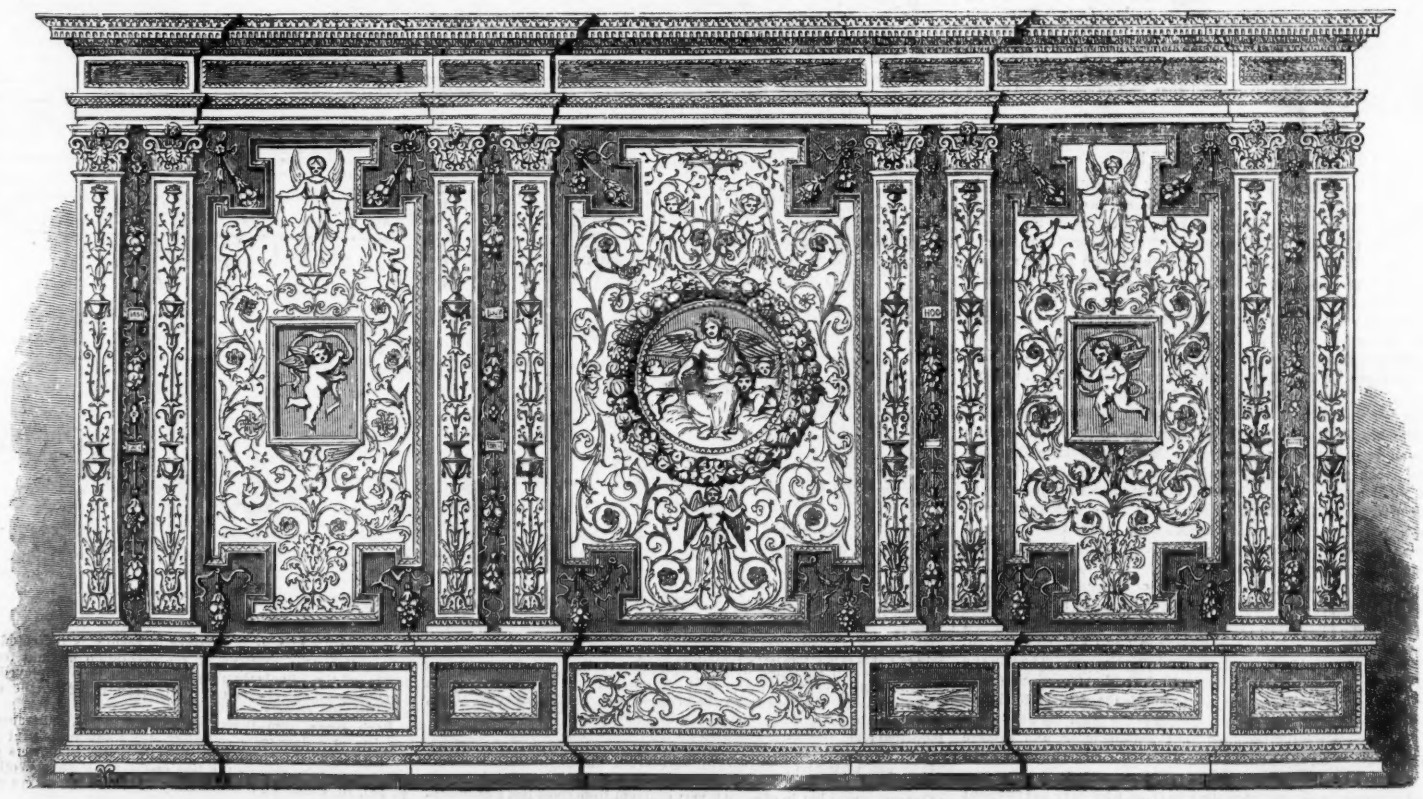
Townshend, Parker, and Co. have an arabesque paper pattern, quite good enough for hand painting. This certainly stands a chance of being considered the most praiseworthy of this class of productions. Their plain flocks on each side of it (p. 534) gain by the contrast: for their purity and neatness of outline, joined to the solidity of the flocking, are well set off by the general deep tones of the arabesque. As being especially worth consideration, their position should be indicated. It is in the agricultural machinery (Class 1.), and on the back of the wall of the Sculpture Court (*i. e.* Bay Q, 27).

BRACKET. BY W. G. ROGERS.

This is one of two brackets exhibited by W. G. Rogers, showing a combination of carved wood and porcelain; the boys in the latter material executed by Chamberlain, of Worcester, from models by the exhibitor, are sitting in a mass of foliage gilt and burnished. The style is decidedly *rococo*, but may occasionally prove effective.

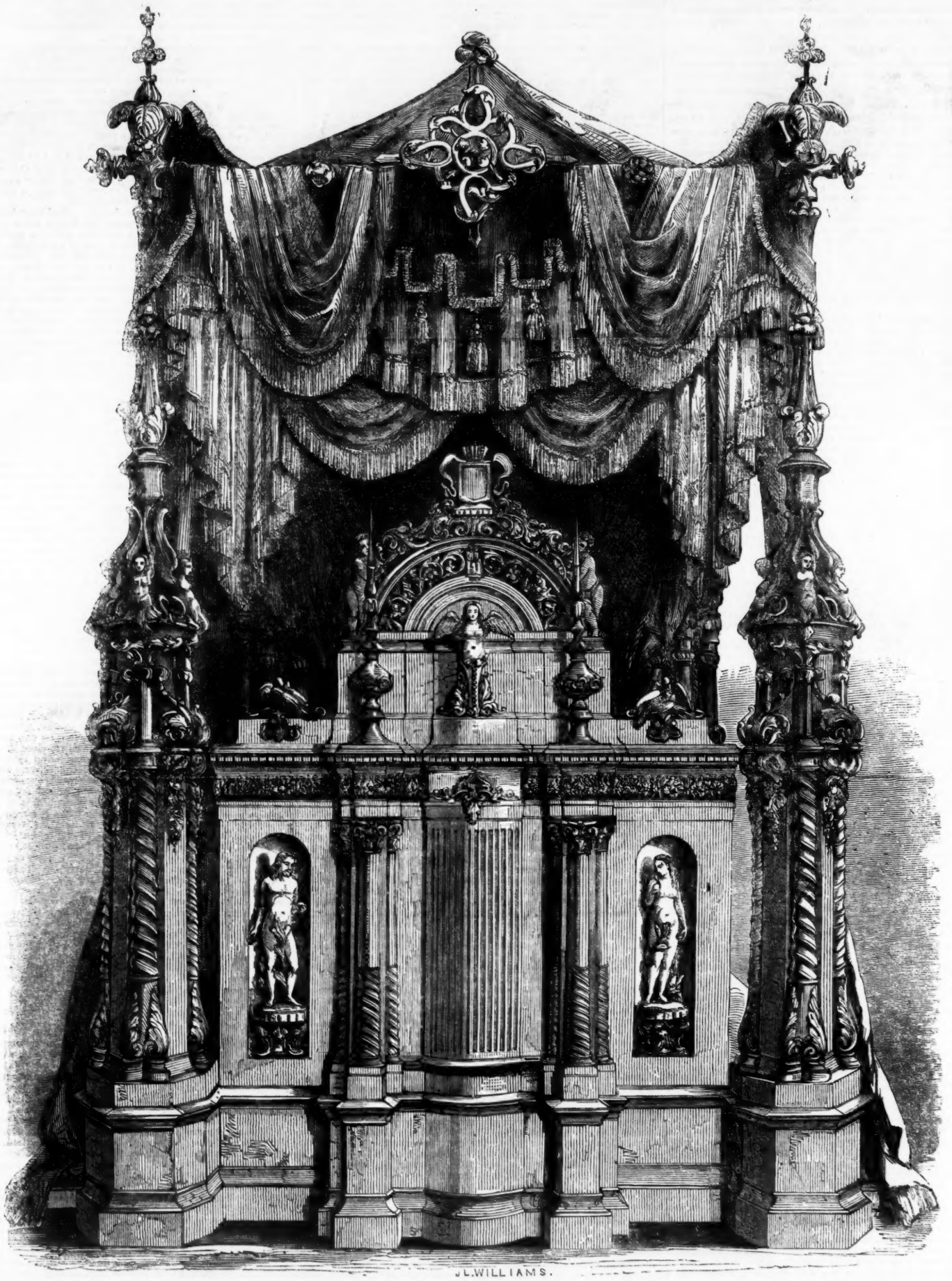
ORNAMENTAL CABINET. BY DOWBIGGIN AND CO.

A richly ornamented commode exhibited by Messrs. Dowbiggin and Co. stands in the front of the furniture department in the Western Nave. The design is by Gruner and is very chaste and beautiful.' It introduces various coloured woods, the panels being ornamented with Raffaelle, in the centre, as well as on the pilasters. The whole is finished with richly gilt mouldings. Altogether we have seldom seen a more elegant production of the kind.



INLAID CABINET, DESIGNED BY GRUNER.—BY MESSRS. DOWBIGGIN.

NEWSPAPER ONE HUNDRED YEARS LONDON NEWS



J.C.WILLIAMS.

AUSTRIAN BEDSTEAD.—BY LEISTLER.

BALMORAL CASTLE, IN WOOD. BY J. H. GRIGG.

This is described as a "mechanical picture," being composed of 700 pieces of wood, all natural colours. It is exhibited amongst several other works by the same person, J. H. Grigg, of Banwell, Somerset, who describes himself as a "wood artist," but which are only remarkable for the curiosity of the thing.

ORNAMENTS IN PAPIER MACHE. BY BIELEFIELD.

The specimen of *papier maché* ornament which we engrave in our present sheet will tend to illustrate the variety of subjects to which this material is applied at Mr. Bielefeld's establishment.

RUSTIC PICTURE FRAME, IN WOOD MOSAIC.

PAPIER MACHE ORNAMENT.—BIELEFIELD.

THE BUILDING STONES AND SLATES.

FEW persons not directly concerned with the actual construction of large public buildings have any idea of the great importance of selecting fit material for such purposes, and fewer still, perhaps, were aware, till the study of the Great Exhibition might suggest the fact, that there exists in our own country a large and varied series of such material, including almost all the kinds of stone known in the world. A notice of the building materials, therefore, and a comparison of the English with foreign articles of this kind, will be found useful and interesting.

There are so many different uses for stones that the subject requires some subdivision. Thus, we have freestones of all kinds, rags, flags,

slates, paving material, firestone, &c.; and these are composed of limestones, sandstones, clayey limestones, clays, granites, porphyries, basalts, &c., according to circumstances. It requires some little attention to discriminate amongst these, and recognise the material that is of real value and best adapted for any special purpose.

Speaking generally, we may say that the building stones abundant in England are limestones and sandstones, chiefly belonging (geologically) to the secondary series of rocks; that the slates are chiefly and entirely met with in rocks older than any of the former, whilst the granites and porphyries are older still. The tertiaries afford little stone except in the Isle of Wight; but some important sandstones are met with in the carboniferous series. The intruded trap rock, of which a large proportion is of good value for roads, if not for more delicate work, is of very ancient date but of limited range. The age and position of similar rocks in other parts of Europe are often altogether different, but the enduring power of the stone is not a little dependent on this part of its history. Our architectural readers will not fail to appreciate this when they examine and compare the materials which we are now about to direct attention.

It may be well to consider the materials exhibited by different countries in order; but, as a matter of course, the English group will be found far more extensive and complete than the others, since the cost of transport would alone deter the proprietors of foreign stone and slate quarries from sending large and fine samples of their produce. The English is, indeed, almost the only collection that is in any sense complete, although from abroad there are several most interesting specimens of material of great beauty, including some examples rarely seen in this country.

Granite is a stone so difficult and costly to work, that it is rarely used except for public monuments and for ornamental purposes. There are too kinds chiefly known in England, and both are well represented in the Exhibition—the Cornish and Aberdeen. There is a good deal of difference betwixt these, though both are excellent. The column exhibited by the Cheesewring Granite Company, and erected on the right-hand side of the West entrance outside the Building; is a beautiful instance of the colour, texture, and sharpness of the stone, and is a granite well worthy of note. The shaft is a single block admirably worked and faultless in quality, and is interesting as being from a quarry only recently opened. It will be interesting to compare it, for colour and texture, with a large cross erected at the east end of the Building, of grey Norway granite, in about the same state of manufacture.

Two other remarkable monuments of Cornish granite are placed as ornamental objects outside the western end of the Building, both of them being obelisks, and both single blocks of great interest. One of them is exhibited by Messrs. Freeman, who have supplied by far the most extensive single collection of raw material in the Building; and the other by Mr. Hosken. These obelisks are left rough, but are carefully tooled, and show the sound quality of the stone. Other granites partially worked will be found in Class I., especially slab, showing different styles of dressing exhibited by Mr. Wellwood Maxwell (No. 134), of D'Albeattie (Kirkcudbright), and some granite balusters from Inverary (137). These two latter, being Scotch, may be compared with advantage with the Cornish specimens; and we would also direct attention to an interesting bust and pedestal of blue Peterhead granite, by Mr. Hutchison (161). The common granite porphyries and elvans of Cornwall, as adapted for building and road purposes, are well shown in part of Messrs. Freeman's series, and the collection immediately adjacent, sent by several of the Cornish local committees.

Of polished granites and porphyries, a fine collection from Cornwall will be found exhibited by Mr. Meredith (Class 1, 141) and Mr. Pearce (Class 27, No. 75). The former has sent chiefly slabs; but the latter exhibits also chimney-pieces, pedestals, and other objects very remarkable both for style and execution. It will be interesting to compare them with the admirable specimens of polished granite sent from Aberdeen, by Messrs. Macdonald and Leslie (74), and a finely worked headstone of the same material, by Mr. Wright (43). The large size of the felspar crystals in the Cornish granites is not a symptom of durability, and the beautiful red variety shown by Mr. Pearce seems to be a kind of doubtful value in this respect; but we may well point to these objects as deserving of great credit among mineral manufactures, and certainly well adapted to the purposes for which they are designed.

There are not many specimens of foreign work of this kind, but the few that have to be mentioned include some of the most remarkable and difficult specimens that could be referred to. From Berlin (Zollverein, 235, but exhibited) we have a fine red porphyry tazza and slab, both of exquisite finish, and worked in a very hard and fine material; while from Sweden and Russia are examples of porphyries and jaspers, exhibiting an amount of labour rarely to be obtained, except where the reward of labour is inadequate, or where, for some special service of luxury, costliness forms an undue claim to admiration. The vases in question, constructed of materials which, so far as difficulty of working is concerned, may be regarded as gems, are marvellous instances of finished skill in the material in question; and we would notice them especially in this way as worthy of admiration, for the same reasons as those which induce us to wonder at the labours of the ancient Egyptians in erecting pyramids, and constructing temples out of the solid rock.

If we pass from granites and porphyries by way of the jasper, the next step is but trifling, so far as material is concerned, but involves a difference of condition which makes a vast difference in its usefulness. The jasper is little more than quartz, and the sandstone differs still less, but the difference between sandstone and jasper being indeed wide, so far as appearance is concerned. Sandstones are extensively used as building materials in England; but, as most of the quarries that yield good qualities are distant from the metropolis, as the cost of transport is heavy, and as other cheaper and lighter material is near at hand, it is no wonder that few of them are commonly used in London. Perhaps the Kentish rag is the best exception, but of this it is singular that no specimens have been sent for exhibition, except by Mr. Freeman, as a part of his large series.

There are several fair qualities of sandstone used for building, and some are excellent, amongst the most remarkable being that from Craigleith, near Edinburgh, admirably illustrated by some dressed specimens, and also by a couple of sculptured groups in this material, showing the whole face of the stone perfectly. We would direct especial attention to Mr. Gowan, the exhibitor of these groups (Class 1, 132), as supplying the finest specimens of freestone and sandstone, and as showing some contrivances in quarrying which do him the greatest credit. The Craigleith stone is in the carboniferous series; it consists of 98½ per cent. silica, and 1 per cent. carbonate of lime. It is not very heavy, is very strong, and works well into landing-steps, pavings, &c., for which purpose it is well known, and much used in London. The quarries are large, and the supply inexhaustible, but the stone is rather costly. Besides the Craigleith, which is the best, several other coal-grits are used for buildings in Scotland, and some also in the coal districts of England. The colour is often dingy, the stone containing carbon and a little mica. The stone endures exposure admirably.

The millstone grit of Yorkshire supplies excellent material, not only for construction and paving, as seen in the objects exhibited by Messrs. Brown, Rusby, and Booth (outside, West End, No. 20), but also for grindstones, of which several, two of very unusual dimensions, are seen in the same part of the Exhibition (outside, West End, 22, Hayward and Bedford and Co., 24). This material consists of small quartz pebbles, embedded with finer grains, and cemented very firmly with a siliceous cement. Elsewhere the cement contains argillaceous matter; but the unequal hardness of wear of the material ensuring a constantly rough surface, is the main recommendation for millstones.

Although little building material from the old red sandstone has found its way to the Crystal Palace, there are not wanting some fine samples of the excellent pavement from Caithness manufactured from the slabs of the bituminous schist occurring there, and belonging to this part of the geological sequence. A part of the pavement outside the West extremity, exhibited by Mr. Sinclair, is of this kind, and the different kinds of surface, which may all be seen, are interesting illustrations of the condition of the stone.

In addition to the sand and grit-stones of the carboniferous series, already referred to, we would direct the attention of the practical man to the Leeds stone, exhibited by the executors of Mr. Walsh (No. 188); the Bramley Fall stone, used for docks, bridges, &c., and exhibited by Mr. J. Rutherford (182); and the Dean Forest stone, by Mr. Townsend (No. 186). There are also several other examples of sandstone in the immediate vicinity, and together they will amply repay half an hour's careful examination. The sandstones shown by Mr. Freeman, as used in London, and belonging to the older group, are repetitions of these, with the addition of Darley Dale, a material of first-rate quality. There is a good specimen of the paving-stone of Pennant grit, near Bath, sent by Mr. Sparks, of Crewkerne (193).

Sandstones of a newer date, chiefly belonging to the new red sandstone series, are exhibited from Liverpool (an interesting series); from Bristol, by Mr. Howard, (29), and others. They are good of their kind, but the texture of such stones is rarely sufficient to justify their use extensively in important works. The Hastings sand yields some hard and good building material in Tilgate Forest, and the lower greensand has already been mentioned for its Kentish rag.

Of foreign sandstones, the most remarkable and interesting are those used for millstones. They are not generally obtained in such large blocks as is the case with ours, but the stone is more compact, less gritty, and is already in holes. Such is the buhr-stone of France, greatly used and much valued, and apparently answering its purpose extremely well. Several varieties of this stone are forwarded, both by French and Belgian exhibitors, and these form an interesting contrast with the millstones of Haywood (outside, West, 22) and Bedford, Benson, and Co. (outside, West, 24), which are of noble dimensions, from our coal grits, and also with those from the Rhine provinces of Prussia, where a volcanic stone of great hardness and roughness is used for the same kind of work. The English specimens are worth examination for their large size and uniform quality; but the French and Belgian are very ingeniously manufactured, or built up of distinct blocks, cut into such zig-zag forms that the tendency to break by centrifugal force, while in rapid revolution, is counteracted by the locking in of one block with another. This may be easily seen and understood on examination.

Limestones (carbonates of lime) are employed for construction in very distinct forms; sometimes crystalline, as the finer kinds of marble; sometimes less perfectly crystalline, but still forming a common marble; sometimes oolitic, as is the case with the common building varieties in this country; sometimes compact, as in many foreign varieties; sometimes mixed with more or less clay, but still available, as our lias limestones; and sometimes with a large and distinct admixture of carbonate of magnesia, as in the case of the magnesian limestone or dolomite, one of the best building stones of this country. The finest varieties of white crystalline marble—in former times the Parian and Pentelic marble obtained from Greece, and more recently the Carrara marble from Tuscany—have been employed by the sculptor to perpetuate his works of imperishable art. The more beautiful and the rarer varieties of coloured marble, as the verd antique, rosso-antico, giallo-antico, and some others now not easily to be obtained, are also used only for ornaments, and need not occupy us here except to direct the reader's attention to some fine and interesting examples exhibited by Greece. The commoner marbles of our own country, France, Belgium, and Germany, are generally not only coloured, but distinctly veined, and their value depends on the absence of cracks and flaws, a good arrangement of the veins and patches of colour, and a possibility of getting large blocks of equal quality and texture at a moderate cost. In the actual use of the commoner marble, our Continental friends have long been far ahead of us, and evidence of this is seen in the multitude of slabs and specimens, worked for the most part thin, and with little regard to expensive forms, and showing an application in which cheapness is more important than finished workmanship. The marbles of Languedoc and the Pyrenees exhibited by France, the marbles of Belgium, those of Spain and Portugal, and those of Italy, are well worth attention in this respect.

England is chiefly dependant for marble on the counties of Derbyshire and Devonshire, although beautiful material of the same kind occurs in Scotland and Ireland. The varieties of colour are numerous in both districts, but the material is somewhat brittle and rather expensive in working, at least as compared with the abundant and low-priced marbles of the Continent. The black marble, used a good deal for chimney-pieces and other house decoration, is of excellent quality, hard, and takes a fine polish; and samples are not wanting from Belgium and England. Of the former we may mention a very good and well-worked mantelpiece, on rather a large scale, exhibited by M. Noirsaint, in the exit passage near the Sculpture court, and fitted with its stove at Birmingham. This may be contrasted with the Derbyshire black marbles in Class 27, which show most of the common applications in England, and indicate a large preponderance of ornamental work, not always in the best taste. Of the works in coloured marble, there is a font from Devonshire, by Mr. Bovey, in Class 27; a large table and some columns by Mr. Champernowne—the latter occupying a prominent position in the Nave—and several smaller articles. A magnificent table and slab are exhibited by the London Marble Company, but the localities of the marbles are not named in the Catalogue.

Several specimens of workmanship in white marble, chiefly for chimney-pieces, are exhibited from various countries. The English are not very remarkable—one from Belgium is, perhaps, on the whole, the best (Leclerc, 425), but there are several of tolerably good design and workmanship from France, and some of great pretension and high finish from Milan, in the Austrian Sculpture Court. As specimens of working in marble, these deserve some attention, but there is in most of them an absence of perfect fitness either for house or palatial decoration. More successful for taste, and even more excellent in detail, is a very beautiful tazza of Oriental alabaster (Egyptian), sculptured and exhibited by a Roman artist, M. della Moda, and placed in the Nave, near the Roman compartment. It is difficult to imagine any work finer than that displayed in the handles of this vase; but there is no undue attempt at showing off the work, which so frequently spoils the effect of an otherwise good design. The material in this case is of the rarest and most beautiful quality, being an unusually large and fine block of the curious stalagmitic carbonate of lime, anciently worked in Egypt, and of which the quarries have recently been re-opened. Blocks and slabs of the same kind of stone are exhibited in Egypt.

It would not be right to pass from the consideration of the ornamental marbles, without referring to the exquisite beauty of the green marble of Connemara, exhibited both in Class 27, and also by Mr. Freeman, in Class 1. There appears to be no limit to the supply of this kind, and it is rather singular that it has not entered more into consumption. There are some very beautiful slabs of red marble in the Nave, from a Berlin exhibitor. Several interesting specimens of Irish marble, of different kinds, are exhibited in Class 1, by Mr. Long and Mr. Manderson.

The common limestones used for construction in England are the Bath, Portland, and several from the midland counties, among the oolites and the magnesian limestone, among those of older date. Caen stone is also much employed for internal work, and in some places for the exterior of buildings of important character. All these are well represented, and for the most part by large series both of blocks and manufactured stone. The Purbeck and Petworth stones, and the Forest marble, are shell oolites, that bear a certain polish, and may be regarded as forming a group intermediate between common limestone and marble.

The Bath stone is exhibited by Mr. Howard (Class 1., 29), and Mr. Freeman (160), and worked specimens by Mr. Vaughan (Class 27, No. 20) and others. The vase shown by the latter is a good instance of the quality of the stone, and the degree to which it is capable of chiselling; and a small bust on the table within the Mineral Court (Class 27, 60) is another illustration of the same kind. The quality of Bath stone is well known to be very indifferent where the objects constructed of it are exposed to the weather. It is, however, abundant, easily worked, and cheap—qualities that will always recommend it.

Portland is one of the best building stones obtained from the oolitic rock, and is surpassed by few materials of its kind in this country. It is chiefly worked in the quarries in Portland Island. Excellent samples are shown by Mr. Freeman and Mr. Foot (Class 1, 180), the latter of whom presents us with the worked as well as rough stone. We believe there are no sculptured works of any size of Portland stone, but there is no difficulty in London in seeing examples of it, as it is employed in many of our finest public buildings, and amongst the rest in St. Paul's Cathedral.

The other oolites are shown by Messrs. Kirk and Parry (179), who exhibit Ancaster stone (Lincolnshire), a very beautiful material; Mr. Freston (133), and others. Some of these stones are well known. Caen stone, also, an oolite from the coast of Normandy, and Aubigny stone, from the same district, are exhibited chiefly by English agents (Luard and Co., No. 176) and English sculptors, the latter being very numerous. We may mention, as specimens both of the quality of the stone and excellence of workmanship, the font by Mr. Eyles, in Class 27; the niche, with figure of St. Peter (Lane and Lewis, No. —), and two monumental works in the same class. One or two objects in the Nave, of the same material, will also attract notice, but are not so well worthy of close examination. The sculptures and carvings in Caen stone, by Mr. Myers, in the Mediæval Court, are especially remarkable.

The magnesian limestone, well known as being the stone selected for the outside work of the Houses of Parliament, is exhibited by Mr. Grissell, the builder, and also proprietor of the quarries employed for that work, and also by other persons. This material is of great beauty, and of the most durable nature, and there is no limit to the quantity obtainable. There are other magnesian limestones in Yorkshire, Nottinghamshire, and Derbyshire, at the point where these counties nearly meet; and some of these are represented by specimens, but it is hardly necessary to allude to them here.

Among the materials nearly resembling crystalline limestones, are the alabasters, of which the finest kind and the best qualities are obtained from Tuscany, but large quantities are also found in Derbyshire. It is soft, and works very easily, and is well shown in several objects, chiefly figures, vases, tazzas, and candelabra, from Florence, where it is much used. This alabaster is a true sulphate of lime, and must not be confounded with the so-called Oriental alabaster, which is a carbonate of lime, and merely a variety of marble.

There are several interesting specimens of foreign building material, to which it is well to direct attention. Thus, a chimney-piece, pavement, and a small monument, all in Tonnerre stone, are exhibited in France, by Desanges (1184), and a pinnacle of Ordain stone, by Joostens (457, Belgium). These seem both of them to be good specimens, and are interesting as representing stones with which we are not acquainted in England. Other stones and marbles, and manufactures in these substances, will attract the eye of the visitor in wandering through the Building; but amongst them we must request his special attention to a singular-looking set of garden seats in the Indian Court, very curiously and elaborately carved, and intended, as it is understood, as presents for her Majesty, and to be placed in the open air at Osborne. For closeness of grain, fine colour, and the amount of labour expended on them, these specimens are worthy of the place they occupy, and this will, we are sure, be felt as a very high compliment.

Amongst the ornamental material exhibited must be ranged the serpentines of Cornwall, shown partly by Messrs. Organ, and partly by Mr. Pearce. The former have sent two obelisks, a font, a chimney-piece, a slab, &c.; and the other a pair of remarkable candelabra, and several smaller ornaments. As a material, this is much less hard than the serpentine of the ancients, and is, in fact, not more costly, either to purchase or manufacture, than white statuary marble. There cannot be a question as to the beauty and value of the stone; and it is manifest that the Exhibition has done much in enabling the discoverers and first employers of this substance to come into the field on a large scale, and compete with rivals exhibiting material of known reputation, who would, perhaps, have neglected the new substance, or at least put off the novelty as a matter of small importance. We have little doubt that these serpentines will be done full justice to by the public; and we consider that in this, as well as many other matters, the manufacturer in distant parts of the country will have reason to thank the Exhibition for bringing him into notice in the metropolis.

Slates are admirably exhibited, not only in their rough state, but as split by the hand or machine, and as sawn into slabs, and afterwards prepared for various uses. The series by Mr. J. Stirling, jun., in Class 1 (No. 209), is as complete as can be made, so far as the slates sold in the London market are concerned; and it would be difficult to find a more interesting collection illustrating a distinct and very important subject. The process of enamelling slate, or covering it with varnish capable of receiving colour, and either forming slabs of imitation marble, or tables resembling those now manufactured in *papier maché*, is comparatively modern, and very important. The works of Mr. Magnus (Class 27, No. 46) are extremely remarkable in this respect. Many chimney-pieces of imitation black marble in enamelled slate are now in common use in this country, and the consumption of slate is daily becoming more and more important. The quarries from which the finest varieties are obtained are chiefly those of Delabole, on the north coast of Cornwall, near Tintagel, several in North Wales, and several from Cumberland, Westmoreland, and Lancashire. The uses of slate are now very numerous; and some idea may be formed of the importance of the trade by the fact that from 30,000 to 40,000 tons are annually brought into London only. One-third of this large quantity is brought in slabs, and may be considered to represent the proportion available for miscellaneous and ornamental purposes. The rest is in split slates for roofing

Some good series of slates are exhibited by France, chiefly from the neighbourhood of Angers (290), but also from the eastern districts, near the Meuse (694). A fine slab of polished slate is sent from Sardinia.

Such is a general outline of the objects in the Exhibition illustrating the various earthy minerals used for construction and ornament. Like every other collection there to be found, it is exceedingly imperfect; but, like many others also, it is interesting and instructive in its very imperfections. These mark almost always certain local conditions, and have reference to distance, cost of transport, and other causes, which must always be borne in mind. Certain it is, however, that no one country in Europe, without reference to actual magnitude, could produce the variety of really good material of the kind we are now considering that is found within the British islands; and none, certainly, could produce a greater quantity of some very useful kinds. In this respect, as in many others, our country is especially fortunate in the possession of materials strictly and widely *useful;* and it would have been discreditable if we had allowed ourselves to have been outshone in them by any foreign nation. In the ornamental departments of stone-work, however, the case is different; and not only are we less rich in the substance, but exhibit, it must be confessed, less taste in design, and less finish in execution. While, therefore, we may point to our granite and stone as really remarkable and admirable illustrations of our country's wealth in such substances, and while we find large collections of these for the use and instruction of our own people, as well as foreigners, we must be contented to take lessons both in quality and workmanship from our Continental neighbours in the finest kinds of ornament. It is to Italy that we must go still for elaborate work of this kind, as executed by the ordinary workman, and involving a certain amount of taste and knowledge of detail, which with us is too often absent in the buyer no less than the artist. There cannot be a question that in all matters where such contrasts are brought under notice, the result will be improvement, and thus the Exhibition will help to advance the national taste, and give a higher standard of excellence for many common things.

CHEMITYPY, STYLOGRAPHY, AND GALVANOGRAPHY.

THE ILLUSTRATED LONDON NEWS must naturally regard any new attempt at surface-printing with particular interest, and we find at the Crystal Palace that the Austrian Government have exhibited a new example of this style of printing. Doubtless, most of our readers are aware, that the Engravings which give to our Journal its peculiar character are first sketched on a block of box-wood. This sketch is then transferred to the wood-engraver, who cuts away the wood, leaving certain parts in relief. These parts in relief are passed over with a roller made of glue and treacle, and covered with printer's ink, which adheres to the wood. The paper is then pressed by the operation of printing upon the inked surface, as our readers may observe at the press in the department of Machinery in Motion, and thus the impression which is issued to our subscribers is made.

The process of Chemitypy, as practised by Pül, of Copenhagen, may thus be described:—A zinc plate is taken and covered with etching-ground; the plate is then etched, and the surface covered with an easily fusible metal: the plate is then scraped, so as to leave the metal in the hollow parts produced by the etching. The surface is then again etched, to remove part of the zinc plate for the elevation of the design. The plate thus made now resembles a wood-cut fit for printing.

Our object must be to supply the public with the finest surface-printing that can be effected; but further experience is required, and far greater excellence must be obtained, before we can adapt these processes for the ILLUSTRATED LONDON NEWS. Nevertheless, by calling attention to it, some may be disposed to investigate it, and bring it to perfection, for it has long been our opinion, that blocks for surface-printing yet admit of very great improvement.

The process of Stylography is adapted for the copper-plate printers. A block of black composition is cast upon a smooth metallic surface. The compound is then covered with silver, and the drawing is made through the silver ground. By electro-metallurgy a reverse is then made, and again, from this, a duplicate fit for printing is effected. We give the process as it appears in the department for Denmark, but we must confess that its utility to us is very questionable.

The Imperial printing-press of Austria have exhibited examples of Galvanography. They paint upon a plate, and over the painting form an electro-metallurgic deposit, which is at once ready to print. This process is identical with that described in the *Philosophical Magazine* for May, 1840, and which was subsequently called the Electrint. In this country some beautiful specimens were executed, but the process is now abandoned, or, at any rate, not now practised.

We call the attention of foreigners to the English process of Glyphography, which is now extensively employed. A drawing is made through the ordinary etching-ground; the plate is then etched, and the plate is rolled up with a mixture of various substances: over the whole a copper-plate is made. This process is found to be the best for maps which has ever been devised; and Messrs. Blackie, of Glasgow, are now publishing a very valuable Gazetteer, with glyphographic maps of great excellence. For maps, in fact, Glypography greatly surpasses wood-engraving.

In giving a short review of these processes, we feel bound to record, that, in our opinion, surface blocks have yet to be improved; and every addition to our facility of execution cannot fail to benefit the artist, and be serviceable to the public.

HABITATION, AS EXEMPLIFIED IN THE GREAT EXHIBITION.

WE have already presented articles upon the food and clothing of man as pourtrayed in the Exhibition. We now proceed to the third of the series—the dwelling or habitation—which will complete this portion of our subject.

Great changes have taken place in the architecture and appurtenances of human abodes since Babylon was built, and Queen Semiramis ascended her giant tower to look afar for the possible invader, or lounged in her hanging gardens in the golden radiance of an Assyrian sunset. Yet Babylon contained mighty palaces and temples, vessels of gold and of silver, painting and sculpture, and all the luxury of a great defunct civilisation. Doubtless, thousands of workmen had carved and adorned the furniture of her Royal halls. Yet, with the aid of modern machinery, these same workmen would have furnished the palaces of a hundred Semiramises in less than the same period of time, and with infinitely greater ease, convenience, and splendour. The house of a London shopkeeper contains appliances, chattels, and decorations, which Persian kings and Roman emperors would have envied, and for which an adequate substitute would be vainly sought in the cities of Ctesiphon or Byzantium, could we call back the wheels of time, and effect the resurrection of those ancient capitals in all their pristine glory.

Yet we must not be blind to the great fact, that, from the time when history loses itself in the clouds of mythology which deck the inaccessible heights whence pours the stream of human records, rich people—men who could command and direct the labour of their fellows—have ever been amazingly comfortable and well housed. The prime virtues of a dwelling for man are very simple, and have been more or less the prerogative of the wealthier classes since dwellings were built. These virtues are solidity, to resist the elements and the attacks of foes, bestial or human; and spaciousness, for the free circulation of the air, light, and the movements and various dispositions of the inhabitants. So essential are these two radical qualities, that their absence can be atoned for by no amount of internal details. Indeed, who would not prefer a suite of vacant rooms, in a well-built mansion, of good dimensions, and with lofty ceilings and windows, though their furniture consisted but of a few thick rashers of the trunks of trees for tables and chairs, with the ample well-boarded floor as sideboard, bedstead, and bookcase, to a cottage such as one sees occasionally, in the rooms of which one can scarcely turn round without overthrowing a piece of furniture, whilst the low ceiling and narrow walls produce a closeness and impurity of air which nothing can entirely dispel; where the light, reflected and broken on every side, dazzles and annoys the eye; where everybody is in everybody's way; where nobody can speak without being overheard; where music is an absurdity, and exercise an impossibility; where, in short, were the walls of satin damask, the carpet of Turkey's softest woof, the chairs and sofas of richest velvet, and the furniture a combination of gold, marble, and the costliest woods of Eastern groves and Western forests, one would yet feel like a peg stuck into a cribbage-board, or a curious Moslem who had ventured into a pew. We appeal to those who have known the luxury of *space*, whether they would resign it for any other quality in a dwelling. Then, again, small houses and rooms are much more subject to damp, draughts, smoky chimneys, the annoyance of bad drainage, and many other architectural imperfections. It is unnecessary to observe on the sanitary advantages of spacious apartments.

Now, as the great end of civilisation, progress, and commercial industry is not only to increase, but to extend comfort, and give daily to a larger number of men the advantages enjoyed by a smaller one the day before, we had hoped to have seen in the Great Exposition of all Nations architectural plans and models of a more original character than our anxious search, and the very imperfect catalogue, have enabled us to discover. If, therefore, we have overlooked any enterprising and ingenious suggestions of the sort, we shall be glad to be reminded of the inadvertence. Meanwhile, before considering the various productions in detail for the aggregate improvement of the comforts of human domiciles, we shall, glancing from one terminus to the other of architectural progress, endeavour to draw a few leading conclusions from their consideration.

In the department marked "Tunis," and in the centre of that department, stands the tent of an Arab of the Desert, which is familiar to most visitors of the Titan glass-house. It attracts notice, and suggests fanciful reverie, by its rude contrast to the wonders of industrial art around it. There is no "humbug" about that old Arab tent, no devil's-dust "dodgery" in its tough coarse tissue. It was made from the hair, to be transported on the back of a camel; and, like that faithful "ship of the desert," it will serve a careful master long and well.

Such tents threw their shadows on the plains before Babylon arose or Memphis was a city. Constructed originally of the skins of beasts, they are the first step in domestic architecture, after the shade of the tree or the shelter of the mountain cave. They do not pretend to do much. To exclude the sun's burning rays, to shelter from the rain, to defy the prying gaze of curious eyes—such are their simple virtues. To an imaginative mind, this rough stranger from the sands of Africa seems to look up smilingly at the crystal dome above, in quiet consciousness of its natural and primitive worth, yet with full appreciation of its protector's incomparable greatness. For, truly, this tent and the house which covers it are the two extremes of which we spoke.

Reviewing rapidly the intermediate stages of the builder's progress, Egyptian vastness, Grecian beauty, and Gothic elaboration by turns dazzle our eyes and chill our hearts for the hopes of modern architecture. We are but imitators, after all, is the ever-recurring, ever-saddening reflection. But a whisper is abroad. From time to time we meet with young enthusiastic architects, who aspire vaguely to a new style of architecture. The word *iron* is muttered; and an iron age feebly takes takes up the metallic echo. Iron railways, iron bridges, iron ships are built, and landed. Iron palaces, iron houses are yet banished to the land of Utopian visions. How difficult it is to shake off the old superstitions in practical life! Even in the nineteenth century theory and practice are still spoken of as opposing poles. The *thinker*, the primæval workman, is not *yet* fully honoured or rewarded. But his day is coming. He can wait a little, for is he not to govern mankind as soon as they can get but the rudiments of schooling? Then, indeed, he will say to the world, "Do this!" and they will do it; "Go!" and they will go. Because *then* the man who *invents* will be *understood*; and execution will follow design.

At length the hour strikes, glass and iron are wedded. The dark strong father of the cannon and the steam-engine clasps the pure daughter of fire in his grooved embrace. It is a glorious marriage. Glass is the emblem of mind; it exists, yet is itself unseen: of glass are formed the lenses of the telescope and the microscope, the retorts of the chemist, the tube of the thermometer—its mission is to enlighten and to let in light. Iron is the symbol of matter; its mission is to work, and its attribute is force. Thus the Palace of Crystal and of Iron was erected.

Apart from its present use and present contents, it is a grand prophetic indication of future architecture. Through its transparent vistas may be seen by the eye of one accustomed to follow the fertile growth of an idea, whole hosts of wonderful constructions. Propositions formerly scoffed at cannot now be treated otherwise than with respect. For example, some half-dozen years ago, the erection of a glass verandah, supported by light columns, along the principal lines of street in the metropolis, was suggested. This, whilst protecting foot passengers from rain, would of course be free from the objection to ordinary colonnades (and which proved fatal to the pillars of the Quadrant in Regent-street), that they intercept the light. In summer, the shop-keepers, by letting down their awnings *over* the glass, would escape all the trouble of the present clumsy contrivance, with its projecting irons, to which so many a broken head and crushed beaver is indebted. What six years ago was regarded as a gigantic chimera, must now be accepted as a common-sense piece of policy. For what shopkeeper would rationally object to an expense of a few pounds to secure his customers a dry promenade, and the opportunity of inspecting his goods in all weathers? and what individual of any class would object to a plan which would enable him to walk from one end of London to the other dry-shod, saving him an infinity of expense in damaged clothes, shoes, cab-hire, doctors' bills for colds, *ennui* for want of exercise, &c.?

Imagine the luxury of a covered way along Oxford-street, Regent-street, Piccadilly, the Strand, Fleet-street, Ludgate-hill, and Cheapside, ye men of business and locomotion, who get so often wet through while waiting for an omnibus, when all are "full inside," and the conductor sardonically hints that there is "room on the roof;" ye who jostle and poke one another's faces with umbrellas, or painfully stand up in doorways, or plunge frantically into damp vehicles—whence colds, coughs, rheumatism, tic-doloureux, sciatica, and a host of evils too numerous to mention! Do not your mouths water? Say rather, do not your dripping coats feel dry at the bare imagination? Why, Paris, with all its vaunted arcades and colonnaded Palais Royal (National, we mean), will have to follow humbly in our wake.

If to the above improvement were added Mr. Stephen Geary's system of paving, London would indeed be a marvellous city to a stranger. This paving consists simply in laying down four or more lines of broad flat stones for the wheels of carriages, carts, &c., with ordinary paving between them for the horses. It is, however, perfectly level, and can be crossed at any part, precisely like an ordinary road. The idea is not new, except as to its extended application, for specimens of such paving may be seen in some narrow lanes in the city. It is, however, as rational as it is simple; and the exposition of Mr. Geary's model in the Glass Palace gives us an opportunity of drawing the attention of the Paving Commissioners to the project. Every omnibus would, if this system were adopted, run virtually on a railroad; and, were a system of periodical stoppages at distances of, say one furlong, substituted for the present indiscriminate hailing and setting down, metropolitan locomotion could be immensely facilitated and reduced in cost. No one, by this plan, could be forced to walk much above a hundred yards, and as each of the *stations* would be *covered*, and indicated by a board, it would be much easier and pleasanter than at present, both for driver, conductor, horses, and passengers. Moreover, payment according to distance could be much more equitably regulated.

We now turn to the examination of the various objects exhibited, with reference to their value as adding to the comforts of human habitations. The first thing that strikes the observer in the Great Exhibition in this head is the immense variety of the materials employed, and the numerous uses to which each individual material is adapted. Each particular substance asserts itself as an universal genius, and seems to contemplate a monopoly of the industry of man. This Great Exhibition, and others like it, must have the effect of damping such inordinate "Jack-of-all-tradeism," and, by the means of comparison offered, decide the most appropriate and advantageous field for the development of the several capacities of the materials in question.

A striking illustration of this expansive tendency is offered, on entering at the East entrance, by the American fabrics of vulcanised india-rubber, which (not to mention the trophy of incomparable tubular life-boats) show maps, floor-cloths, flutes, boots, and downright chests of drawers, veneered with india-rubber. Some of the maps are printed on a texture as fine as silk, and, besides a rare delicacy of printing, can neither be torn nor injured by water, and, moreover, possess the curious property of self-magnifying, as they may be stretched to double their normal size in every direction with the greatest ease. For travellers, such maps have also the peculiar advantage of never creasing, however carelessly they may be crumpled together and thrust into the pocket. The floor-cloths and table-cloths, on which large maps of the world are printed, cannot be too much commended for their useful, instructive, cleanly, and economical character. Messrs. Goodyear, the patentees, exhibit a variety of textures of india-rubber in combination with wool, linen, &c., for carpets; and globes, which can be inflated or put into the pocket at pleasure.

A bath of soapstone, also in the American department, suggests a jocular reflection from its very appropriate title. But in reality this stone, from the ease with which it is cut, may prove a great benefit to our western friends of water-loving habits. Crossing over to the other side of the way, we are interested at once by the patent excelsior bedstead, by Beljiman Brothers, of 57, John-street, Clerkenwell. This bedstead is of wood, entirely put together by peculiar dovetail joins, without bolt or screw. It is impervious to vermin: no slight recommendation, if the fact be as stated.

The display of Canadian timbers is curious, and affords proof of the rich stores of wooden wealth with which the forests of North America abound, whilst the arm-chairs from that colony show that the inhabitants are not backward in the artistic application of their resources. On entering the hardware department, we pause to admire some tea-trays, in *papier maché*, by F. Walton and Co. These trays are adorned with subjects from Retsch's outlines of "Faust," and indicate a progressing taste and judgment in the tea-tray art, which merits encouragement. Passing some fire-proof safes, by Chubb and Tannis, which suggest a general reflection on man's successful contest in so many ways with the dread devouring element, we reach the Mediæval Court; and though we would rather see our own age originate a style of its own, than strive so obstinately to reproduce the past, we cannot help admiring many of the designs, especially a Gothic chimney-piece, by G. Myers, of unusual elegance and spirit.

But it is in the iron departments that we naturally expect the greatest triumph of British industry, and the Briton is so proverbially fond of his fireside, that it is no wonder if fire-places pre-eminently shine amongst the productions of his industry. The Coalbrooke Iron Company exhibit a splendid combination of steel, marble, and electro-gilt iron. They also show some railings of very beautiful pattern.

Messrs. Winfield have some tasteful little tables of marble and gilt metal, which for strength and beauty are gems in their way. They have two bedsteads, of brass and iron, of very improved make, with screw for tightening the iron sacking. This, however, is the chief screw in their composition, as they are made to dovetail together entirely. Now, of all the principles in the construction of furniture, dovetailing, *versus* glue, nails, and screws, ought to be upheld and insisted on. Our chairs and tables ought to fit together and take to pieces like a child's puzzle. This is the system of strength, neatness, and economy. Each piece is, as it were, cast in a mould, and can be multiplied *ad libitum*, like the copies of a newspaper. So, dovetailing for ever! and away with the glue-pot, the screw-driver, and the hammer! A brass camp bedstead, by the same exhibitors, with four posts, a tent head, 3 feet wide by 7 feet long, and with three sets of legs, folds up, and may be put into a box about a yard long and one foot in breadth and depth. A music-stool, with brass pediment, and the invention of tapering spiral brass columns for bedsteads, also do credit to these exhibitors.

Some gilt railings for a staircase or balcony, by Messenger, are very massive and handsome. Also, a gigantic or molu bracket, to sustain a statue or cadelabra in a public hall.

As for stoves, there are so many, by different exhibitors, all so magnificent in gilding, polished steel, and other devices, that we can only confess our inability to select specimens, without appearing partial, from so rich a collection. In this line, Messrs. Feetham and Co.; Pierce; Hoole, Robson, and Co., and Burton distinguish themselves. The latter's nautilus stove is very elegant.

Messrs. Jennens and Bettridge deserve commendation for their invention of what may be called the poetry of furniture. Their day-dreamer's chair, with its *papier maché* paintings, or molu, and velvet, is indeed an embodiment of luxurious reverie; and the "melancholy, mild-eyed lotus-eaters" would certainly have sent such a chair to the Exhibition, if lotus-eaters were not *ex officio* too lazy to manufacture anything, or trouble themselves about anything but their own dreamy visions.

We now glance at Jordan's machine for wood carving, which places that mode of decoration within the reach of the many, and plunge forthwith into the regions of actual mahogany. Here Gillon and Co. have a splendid sideboard, supported by spread-eagles, as if it contemplated at some future period flying away with somebody's plate and a walnut-tree sofa; of such massive and imposing solidity, that no amount of earthly dowagers, after the lapse of any amount of years, could possibly break it down. Hence we conclude that this sofa will either last for ever or be destroyed by fire. Atlas himself might take his seat upon it without crushing it. The same exhibitors have other most elaborately carved sideboards, but we are constrained to admit that massiveness appears their most striking virtue.

A sideboard, by Levien, in dark New Zealand wood, with light *bas reliefs*, is very handsome, and curious from its distant origin. Had it, however, been the work of New Zealand artists, it would have more deeply interested us. Surely such adepts at tattooing are well qualified to shine in the elaborate carving of furniture. Indeed, the paddles and canoes of the savages afford ample proof of their capacity for this kind of labour.

Some Gothic chairs and a glass screen in a fine Gothic frames, by Wetherell, are very pleasing. But we restrain ourselves from further descanting on the admirable specimens of furniture exhibited. Perhaps, for elegance of design, Miram's tables of gold, covered with green velvet, and supported by swans of white enamel, deserve the palm. We now hasten to seek here and there the germs of inventive talent in the employment or improvement of the various materials over which man disposes for his industrial erections.

Some perforated muslin blinds, by Harris, are remarkable for their ingenuity, simplicity, and tate. H. Bingley's slate enamel, exquisitely adorned by Etruscan designs, from the old vases, in red and black, is very beautiful and rich in effect, resembling exactly inlaid marble. Few things pleased us more in the Fine Arts department than these enamelings. The two mosaic table slabs, by Charles Carrick, a schoolmaster, during intervals of labour, with no other tools than two common table-knives made into saws, and a hammer, are truly wonderful in their way. The fantastic elaboration of the different coloured woods, circle within circle, and no two alike, has a marvellous effect upon the spectator. They are mystic dreamings, those strange interlacing figures, and the work of no common intellect. Mr. Carrick is indeed a born artist, and ought, perhaps, to have been a painter. However, after all, there are painters enough in the world; but we know not another mosaic worker such as Mr. Carrick.

In the Eastern Avenue, north side, is an invention by a French manufacturer, M. Zeiger, of Lyons, which cannot fail to contribute largely to the pleasures and comforts of the community. This is a piano, so constructed that it can be played like a grinding organ, by applying to a certain set of wires certain oblong pieces of wood, covered over with little pegs or nails. Now, into these pieces of wood, of which several boxes stand at the side of the instrument, are nailed a variety of tunes and quadrilles, polkas, &c.; and any new piece of music may be had to order duly pegged out in these wonderful little boards. Thus music will be no longer confined to those versed in the art; nor will any unfortunate young lady be victimised, in future days, when these pianos have superseded the old sort, by unmerciful requests to "go on," or play "just one more waltz," for dancers without pity in their souls, but apparently with springs of perpetual motion in their toes, since every lazy young gentleman, who lounges against a door-post, will be qualified and called on to take his turn at the grinder; unless, indeed, the footboy be at liberty to perform that revolutionary operation, which he could accomplish as well as anybody, though we question whether many mortal footboys, or footmen either, could at the present epoch of civilisation in any other way "oblige their master with a polka," or their mistress "with a quadrille."

Amongst the models of houses themselves, we cannot say that much originality is shewn, nor indeed is inventive novelty by any means the leading characteristic of the Great Exhibition. Perhaps inventors are more shy of exhibiting their wares than other people. Perhaps after the mighty discoveries and contrivances of late years, there may be a lull in that department of anthropological activity. Notwithstanding all the beautiful French paper-hangings and carpets from France, Turkey, and Kidderminster; notwithstanding all the richly-carved furniture from Austria, France, Belgium, and so many strange lands; notwithstanding all the varied wonders of the place, we still return to our first reflection, that, for the improvement of human dwellings, light, air, and space are the great requisites, and we look up at the vast Building in which so many instruments of domestic comfort and luxury are assembled, with the thought that that network of iron, and those sheets of crystal, contain something beyond the wares they shelter, hereafter to become a "great fact" throughout the land.

MICROSCOPICAL PREPARATIONS.

THE use of the microscope has, within the last few years, completely revolutionised the study of physiology in this country, and microscopic objects naturally demand full consideration. In this particular Mr. Hett has greatly excelled. He has devised a very excellent plan for showing a number of injected specimens under a microscope, and we can promise our readers ample pleasure from spending half an hour with his microscope, which is fixed at the North-west Gallery, near Willis's great organ. Whilst listening to the tones of this fine instrument, the visitors may also gratify themselves by examining these beautiful specimens; and they may there see how the blood comes in contact with the atmosphere in the lungs, and becomes arterialised. At the College of Surgeons of London we have the finest anatomical and physiological museum in the world; and the Exhibition, by bringing forth Mr. Hett's instrument, has shown how Mr. Queckett's preparations may be rendered available to the student at any time. In microscopic injections Mr. Hett takes the first place, both in the English and French departments.

With microscopical investigators Mr. Topping has a great reputation. He exhibits five frames containing the test objects which are suitable for the best microscopes, together with fossil earths and fossil and recent vegetable structures. He has also shown some beautiful specimens of dissections of insects, and specimens of bone, teeth, and shell, and even sections of Oriental and Scotch pearls. Besides these, he also exhibits anatomical injections, including a remarkably fine example from the intestine of the rhinoceros. All these specimens are entitled to the highest commendation.

Within the last two or three years a second mounter of microscopic preparations has appeared in the person of Mr. Poulton, of Reading. With microscopists he has become a great favourite, for his civility and the attention which he pays to their wishes, and he has exhibited a case of first-class objects which he has prepared. We particularly call the attention of our French neighbours to these objects, as they will see the perfection which naturalists and investigators expect from the mounters of microscopic objects in England.

The ordinary mode of injecting the capillary vessels is either by size and vermilhon, or by the chromate of lead. In examining the objects, we detected, however, unlabelled, one specimen of a carmine injection, which was manifestly a section of brain. Mr. Smee has exhibited at various *soirées*, as well as at the Microscopical Club, a series of specimens of this character. In a former Number of this Journal we figured the blood-vessels of the cerebellum of the brain, which is an object exceedingly difficult to prepare; but it is supposed the full process of injecting with carmine has never been published, as it is said to have failed in the hands of other investigators.

Mr. Stark, of Edinburgh, exhibits a process of mounting objects in gutta percha cells, but we have not yet been able to try it. Messrs. Smith and Beck exhibit a model cabinet, well adapted for containing the objects; but we are afraid it is almost too aristocratic for the working philosopher, to whom expense is an object; and, lastly, Mr. Leonard exhibits drawings of microscopical objects.

The microscopic specimens which are here exhibited may be taken as a fair example of the minute knowledge which is now possessed by every well-educated medical man at the present time. Scarce fifteen years ago, no Englishman was conversant with the gaudeous structure which the microscope reveals in a piece of dry bone. Since that period the mode of arrangement of the ultimate blood-vessels of every part of the body has been determined. The geologists now delight in the examination of fossil infusoria, or in sections of the teeth of the gigantic tenants of a former world. The chemist now examines his precipitates and has occular demonstration of the characters of the substances which he examines. The entomologist determines the genus by the form of the scales which cover the butterfly's wing; and no investigator, in any branch of science, is satisfied without the possession of a microscope to assist his powers of vision. The microscope is, to minute objects, what the telescope is to the starry firmament, and both must exemplify how limited are the powers of man to grapple with either the minutiæ or infinite extension of nature's works.

EASTON'S HYDRAULIC RAM.

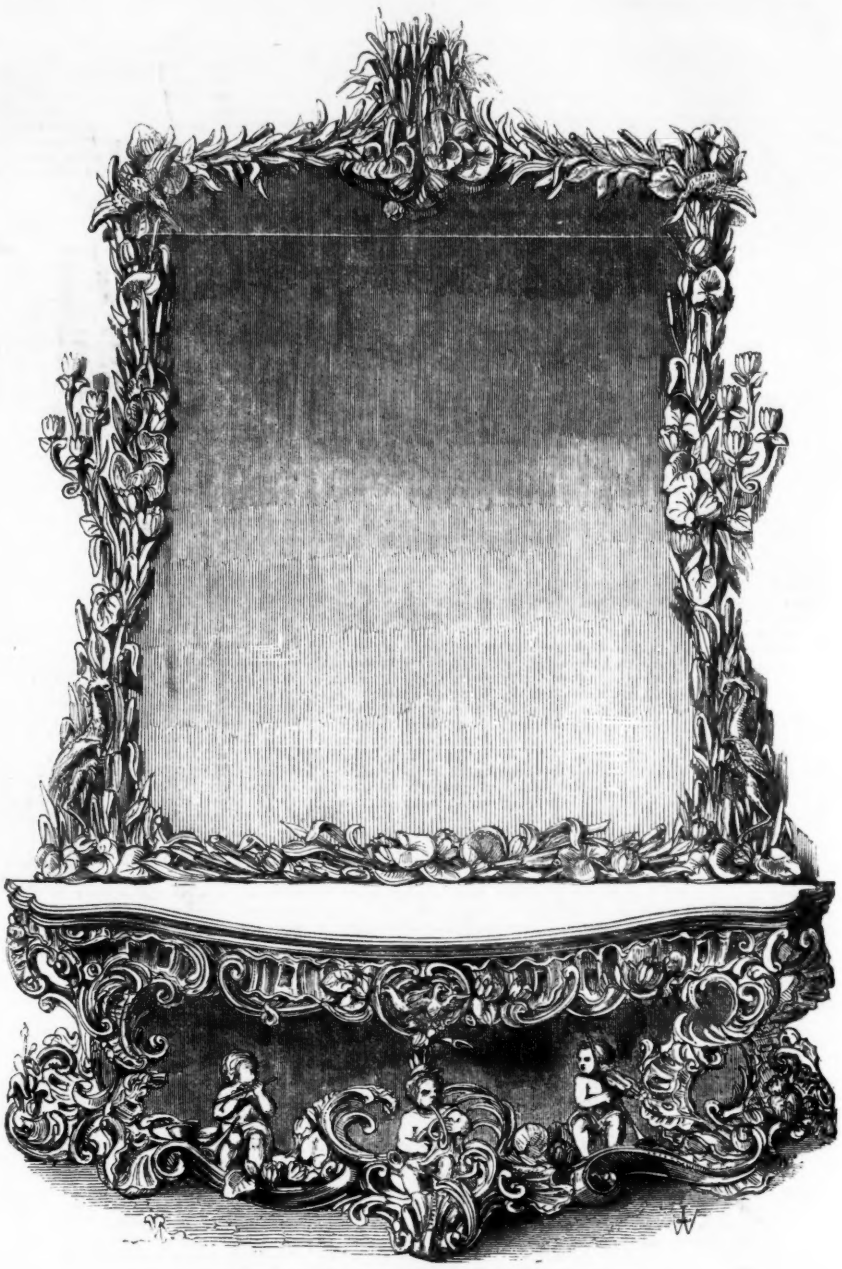
Messrs. Easton and Amos, the well-known engineers, exhibit, in immediate approximity to the great hydraulic press used in raising the Britannia Bridge, and with which they had a great deal to do, "Easton's Self-acting Hydraulic Ram," which is of very simple construction, being composed chiefly of an air-vessel and three valves, two of which are for the water, and one for keeping up the supply of air. Upon the valve situated in the conducting tube being pressed down, the water escapes from it until its momentum is sufficient to overcome the weight, when the valve immediately rises, and closes the aperture. The water, having no other way of escaping, is forced through the inner valve, and compresses the air in the air-vessel until the latter is in equilibrium with it, when it re-acts by its expansive force, closing the inner valve, which retains the water above it, and draws it up the ascending tube. By this reaction the water is forced back along the conducting-pipe, producing a partial vacuum beneath the outlet-valve, which immediately falls by its own weight. The water then escapes until it has acquired sufficient force again to close it, when the action is repeated as before.

TEXTILE FABRICS.

IN our review of the Halifax contributions, those of Messrs. John Houldsworth and Co., of that town, were inadvertently omitted. These consist of damask table-covers and furniture damasks, together with printed tournays or lustrings. The latter are by far the most tasteful productions, the colours being brilliant, and the general effect rich and agreeable. The printing, however, from the style, appears to be the work of Messrs. Swainson and Dennis, the fabric being manufactured by the exhibitors. Some of the table-covers are bold and effective in design, but the damask furnitures might be more refined in taste. As a whole, however, the display is a creditable one.

By a misprint in the notice of the specimens of cotton manufacture exhibited by Messrs. Myerscough and Steel, of Bolton, the quiltings are stated to be of good "water," instead of "good quality," as intended.

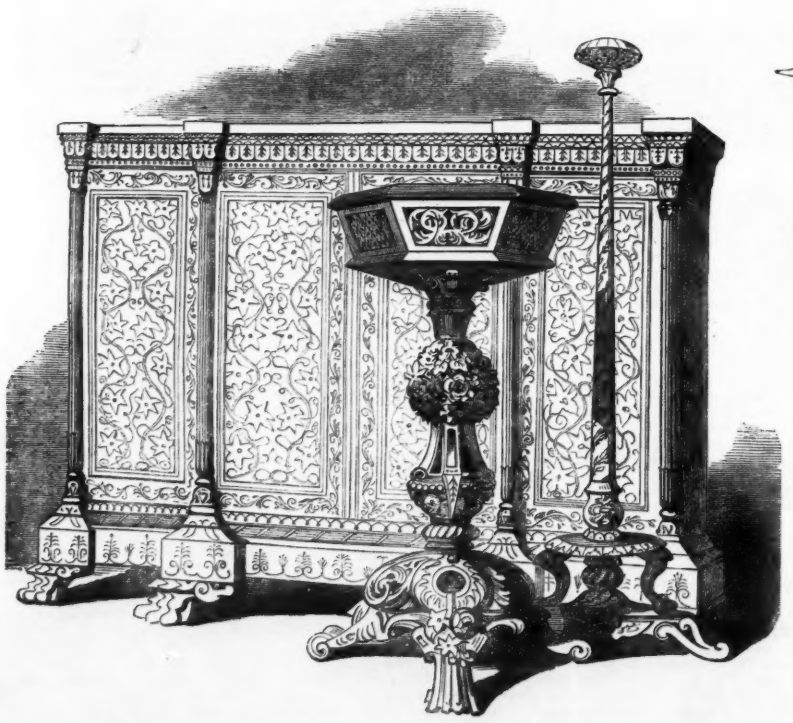
TRANSPARENT PAINTED BLIND.—BACH.



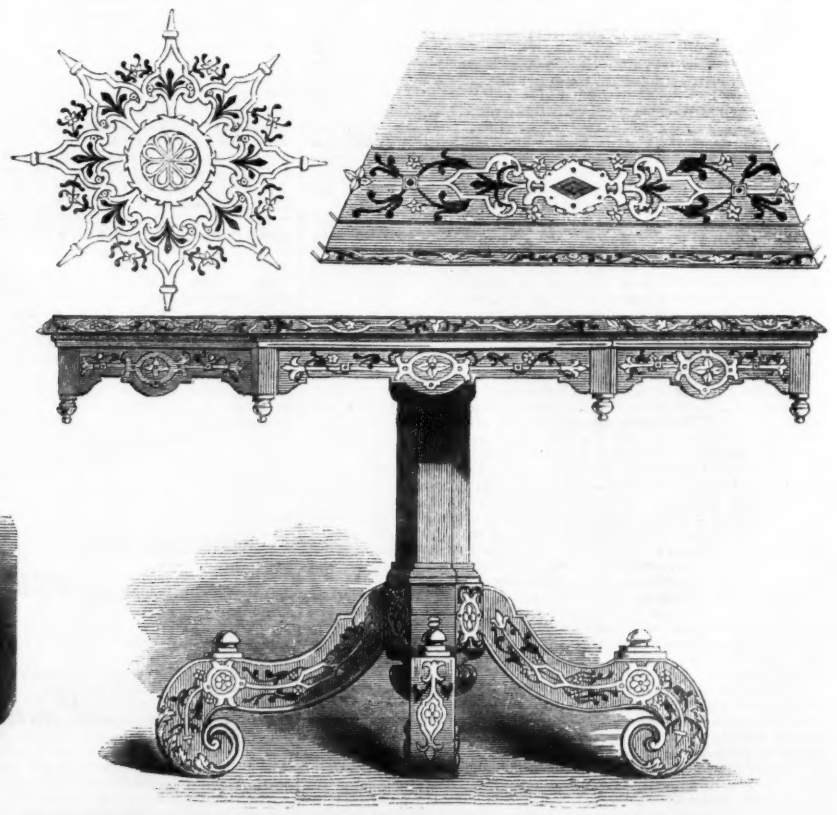
GILDED PIER TABLE AND GLASS.—MESSRS. HOLLAND AND SON.

PIER TABLE AND GLASS. BY HOLLAND AND SONS.

This piece of furniture is very ambitious in style, and profusely embellished with various devices; but the effect is far from being as satisfactory as so much outlay of time, labour, and materials might lead one to expect. *Polonius'* admonition, "neat, not gaudy," has been disregarded in its construction. The subjects of decoration are endless in variety, and stick about in all directions, being at once liable to accidental injury, and difficult to clean; and their bewildering effect is increased by the introduction upon them of various colours in gold, silver, copper, &c. The principal conceits in the recess beneath the slab are three little copper-faced boys playing upon various instruments of music in silver and brass, and lying *perdu* amongst aquatic foliage of various kinds, including bullrushes. The same character of decoration is carried round the frame of the glass. In fine we must look upon this wonderful structure more as a specimen of what may be done, than what it would be desirable to do; and in that light it has certainly considerable claims upon the attention of the visitor.



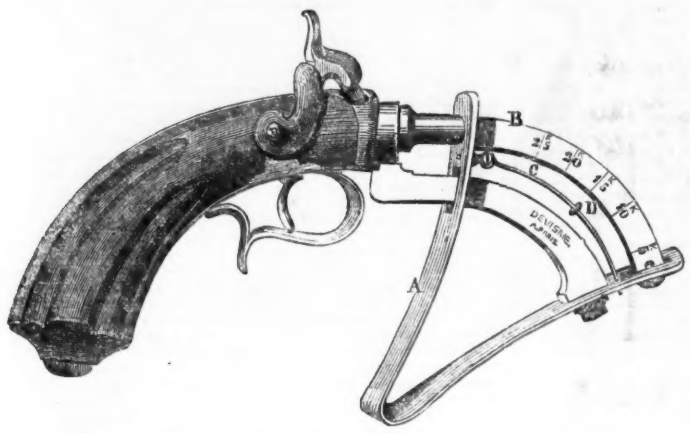
FURNITURE.—EAST INDIA COMPANY.



INLAID TABLE AND ORNAMENTS OF TOP.—CALDECOTT, GREAT RUSSELL STREET.

FRENCH ORNAMENTED FIRE-ARMS.

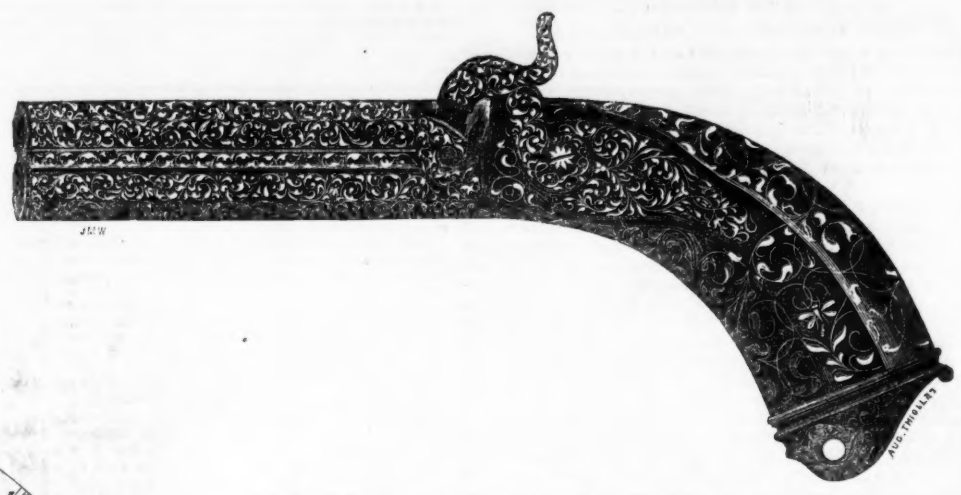
The French gunmakers pay great attention to the decoration of small arms, as fancy pistols and so forth, which they really render very beautiful, almost inviting in appearance. MM. Mortier Lepage, Devisme, Claudin, Lefaucheux, and others who have especially distinguished themselves in this branch of ornamental manufacture, make each a very handsome display in the present Exhibition, their locality being on the north side of the Foreign Nave. In the present page we give several specimens. The pocket-pistol by Devisme is very elaborately ornamented with damascene work and incrustation in gold. The five-barrelled pistol, by Lefaucheux, is more moderately ornamented. The pistol and appendages by Claudin are very richly chased and engraved in a mixed style; the barrel of the pistol being Gothic, and the lock and hammer combining, with the Gothic, decorations of the Louis Quatorze style. The powder-flask is especially beautiful, both as to design and workmanship. The gun constructed for loading at the breech, by Lefaucheux, exhibits very neat workmanship. Claudin and others also have specimens of guns upon the same principle.



PROVING PISTOL, N DEVISME'S PLAN, FOR TRYING THE FORCE OF POWDER.

DEVISME'S PROVING PISTOL.

Devisme's proving pistol, for trying the strength of gunpowder, is constructed upon a very simple principle, and is said to answer the purpose with extreme accuracy. The charge is inserted in a small tube or barrel drilled in the stock, and which it fills. Against this the flat surface of a steel spring presses; and, upon the charge being fired, the extent of the divergence of the latter along the graduated scale indicates the degree of strength of the powder proved.

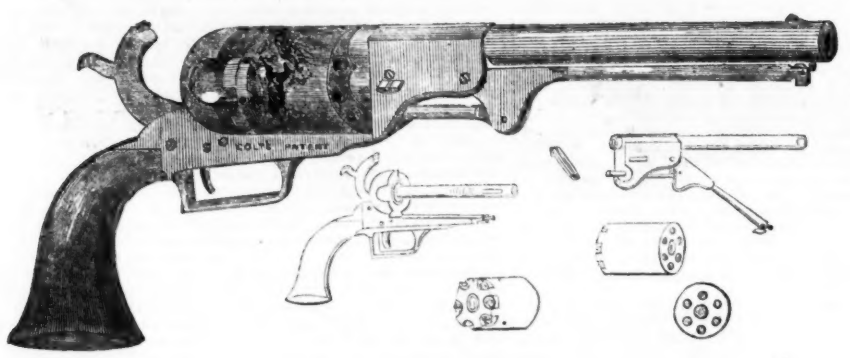


POCKET-PISTOL, WITH DAMASCENE WORK AND INCRUSTATION IN GOLD.—DENISME.

COLT'S REVOLVER.

In this page we also give a diagram of the revolver, or repeating pistol, invented by Samuel Colt, of the United States, and which is so terribly efficient in its operations as to leave all former inventions of the kind far in the background. The report of the Board of Ordnance, U.S., is strongly in favour of its adoption in the army, particularly in frontier warfare, where it has already proved of most important service.

GUN TO BE LOADED AT THE BREECH, ON LEFAUCHEUX'S PLAN.



COLT'S REVOLVER.

FIVE-BARRELLED PISTOL.—LEFAUCHEUX.

PISTOL AND APPENDAGES.—CLAUDIN.

FOOD OF MAN.—No. II.

VEGETAL SUBSTANCES.—ROOTS, GRAIN, PULSES, &c.

WE mentioned in our last Number, that even in this city a number of persons are to be found who believe that the fruits and farinaceæ are alone destined for human food. From our experience, the relative number to the whole population is exceedingly small; and in many cases where that line of diet is followed, we have found that the individual has been affected with disease of the heart, and no doubt used vegetable food because he found it preferable to abstain from more stimulating viands.

We give the following as a specimen of the diet of a vegetarian:—He was an abstainer from all alcoholic drinks. For breakfast he had porridge, with bread and butter and potatoes; for lunch, bread and dried fruit; for dinner, potatoes, pears, apples, puddings, and fruits, with such other vegetables as were in season. He stated that he was capable of endurance, and to himself he had appeared to gain in strength; but he was decidedly irritable in temperament, which he found had increased since this line of diet had been pursued. Many vegetarians use a large quantity of eggs, but by that course they sacrifice their whole principle.

Of all vegetable products, the root of the potato is the only one suitable by itself for the maintenance of life. It contains starch for the purpose of making fat and keeping up the heat of the body; gluten, which is a nitrogenised substance, and capable of affording muscular strength; iron, for the blood; phosphorus, for the brain; citric acid, to prevent scurvy. The fault which is found with it as an aliment is the low amount of the gluten; and hence, practically, the Irish remedy the defect by the use of skim-milk, which contains abundance of that material At the Crystal Palace we have dried slices of potatoes; we have potatoes preserved in tin; we have models of the principal varieties grown in Scotland, and we have what is called potato-flour. This latter, we believe, is merely the starchy matter, and therefore has not the nutritive properties of the entire potato. The potato tubers must not be confounded with the sweet potato, a model of which is to be seen at Messrs. Lawson's. This latter plant is a totally different kind of plant; and from trials which we have made under the most favourable circumstances, will not form tubers in England. It is very analogous to the root of the yam, so much used in the West Indies. Both, when baked, give a white floury produce, which we find, when mixed with a certain portion of flour, can be made into a good bread. The Irishman will eat from 6 lb. to 12 lb. of potatoes during a single day.

Of all vegetable products, wheat is regarded as the most important. It contains, in a very concentrated form, the materials which are necessary for the human organisation. It has been cultivated for so long a period, that we know not the wild plant whence it proceeded, and yet, nevertheless, it requires much preparation to render it fit for food. The grain itself consists principally of three parts—the lignine or woody case, which gives it its general form, and which is separated in the form of bran and pollard; the starch, and vegetable gluten, which exist in the flour and give to it its nutritive properties. It moreover contains phosphorus in a state peculiarly adapted for assimilation. Our first millers consider that the flour, when too highly sifted, is not so nutritive as that which is rather coarser, because, by continually sifting it, little more than starch granules are ultimately left. A large manufacturer of this metropolis required a peculiar operation, involving great labour, to be performed by one man. He tried successively the powerful-looking Irish, the tall north country and west country men, but all were obliged to abandon it except those whom he procured from eastern counties, and had had the advantage of full diet and good wheaten bread—a fact which well shows the necessity of feeding the people.

Of wheat itself, we have specimens from all parts of the world. Our own country has shown most excellent examples. Canada also contributes its portion. From Russia, the examples are splendid. America is great in this matter. Egypt, which has grown grain from the time of the Pharaohs, enters into competition by contributing its examples. Portugal, Spain, and, in fact, nearly every department, has sent some specimens to the World's Fair; and many different kinds cultivated may be seen at Mr. Lawson's stall, or at the table of Mr. Gibbs, where they are carefully arranged in the very worst possible manner for the visitor to inspect them.

Oats, as an article of food, is next in importance to wheat. Some are sent from the Royal Farm; and, in fact, abundance of specimens are furnished from most parts of the world. Oats contain more nitrogenised matter than barley, and less than wheat; and thus, next to wheat, it is the most important grain which is grown. Oat cakes are exhibited by Messrs. Lawson, and Mr. Smith has exhibited oaten flour prepared by a patent process.

Chemists find that barley is greatly inferior to oats. It contains more starchy matter and less nitrogenized compound. Hence it is well adapted for fattening poultry. At the Exhibition it is represented, as well as oats and wheat, in many departments. Barley bread is contributed by Messrs. Lawson and Co.

Indian corn is exhibited in the American department, of the first excellence. This vegetable substance came to our aid during the famine in Ireland, but as an ordinary article of food it is greatly inferior to wheat. It contains less gluten than wheat, and is not therefore so sustaining. Indian corn has not proved a profitable crop in England, and though several kinds may be grown and will yield a small crop, it does not appear to be profitable to the farmer. Mr. Keene has shown his forty-day maize from the Pyrenees, which is the best adapted variety for the English climate. The small maize from Lower Egypt is very curious and well deserves examination.

According to those who estimate the value of food solely by the quantity of nitrogen it contains, the leguminous seeds would appear to hold the first place, for peas, beans, and lentils abound in nitrogenised products. In practice, the surgeon is aware that none of them are to be compared with the other vegetable substances which yield gluten, and there appears to be a great difficulty in their perfect digestion. The French show many packets of preserved green peas, in canisters; and upon the whole subject, whilst admitting the excellence of green peas and young broad beans, and fully extolling the French and scarlet beans as employed as a vegetable, and having no objection to pea-soup on a cold winter's day, yet, as an ordinary article of nutrition, we have a very low opinion of leguminous matter, and do not, even from our experience, consider that they can be safely employed to any extent. They contain little or no phosphorus, which places them in powerful contrast with the potato in this respect. Turkey sends a great many lentils, and from the Royal Farm of Windsor a tub of beans is sent. Pea biscuits and bean biscuits are shown by Messrs. Lawson. French beans and scarlet beans in the green pod are shown, preserved in vinegar.

Rice is shown from almost every country in which it thrives. We have had the curiosity to grow it in a hothouse in this country; but even there it ill suits our short summers. Five varieties are shown by one exhibitor under the Spanish department. It is a vegetable product which, from its simplicity and pleasant flavour, it is almost impossible to get tired of. It may be cooked in many different ways, and in all it is remarkable for its digestibility. Indeed, we consider it to be the quickest, or one of the quickest, digestible substances which has been ever discovered for food. Some years ago there was a great prejudice against its employment by the poor, and even now it is not nearly so much used as it ought to be. It contains more starch and less gluten than wheat and some other grains, and hence, by itself, would be but a poor food, as it would hardly supply sufficient for muscular energy. We have observed that people are really themselves most excellent judges of the effective power which they obtain from various foods, and perhaps they have not found it go so far, for its price, as potatoes or good wheaten bread. The rice exhibited in almost all the departments has the husk, and, perhaps, many of our country visitors have not before seen it in that state. In the Indian department paddy is very well represented.

Mr. M'Callum has sent specimens of the creeping stem of the *Typha latifolia*, or large red mace, which is said to yield a meal fit for food, and supplies a fibre which can be adapted for various manufacturing purposes. We really know nothing about it, and therefore do not recommend it till we hear further of its properties. Of various roots used for food, we have the parsnip represented by a model. It forms a nutritious substance, and can be mixed with bread. The carrot is far less digestible than the parsnip, and may be found in some of the preserved cylinders of provisions. Turnips, so far as we know, are simply shown by a model. They form a nutritious food if taken in sufficient quantity, but will not answer for the poor at London prices. They may be made, with a certain proportion of wheat flour, into bread. Jerusalem artichokes are not much used, and then are employed more as a luxury on the table of the rich. They are also represented by a model. Amongst the roots, Messrs. Lawson have shown the *Apios tuberosa*, proposed as a substitute for the potato, but it appears, even if wholesome, which is doubtful, that it yields but very small produce. Mr. Lawson has also shown models of the *Orobus tuberosus* and the *Oxalis cremata*, but we fancy neither of them are much used. Radishes are represented in many varieties by models. Asparagus is shown in vinegar. And amongst the chemicals, asparagine, the active principle, may be seen in high perfection; and sea-kale is illustrated by models.

Of the cabbage tribe, we have brocoli and cabbages in pickles, and also preserved in vinegar.

Of the whole cucumber tribe, melons, candied, are furnished. Preserved cucumbers are shown; but we do not see either gourds, pumpkins, or vegetable marrows, though they may possibly have escaped our notice.

Salep, the root of an orchid, dried, is shown by several specimens in the Persian and Indian department. It is said to form a considerable portion of the diet of the inhabitants of Turkey, Syria, and Persia. The *Orchis mascula* grows in England; and only a few days ago we walked through a field literally covered with them.

The coffee berry is shown from various parts of the world. It is the produce of a handsome shrub, which may be seen at Kew, or, in fact, at many of the nursery-grounds. It is roasted and ground before it is used for food. On the 1st of May one of the Turkish superintendents was explaining to a number of ladies the use of a set of coffee utensils used by them. He told them "that they must excuse him, but the English ladies did not know how to make good coffee. His countrymen used boiling water, and threw the coffee into it, and when it had twice risen it was ready for use." Upon interrogation he appeared to set little store upon its clearness, so we are afraid that his excellent coffee would not meet with much favour at a West-End dinner party. The powers of coffee over the brain and nervous system are sufficiently well marked; and perhaps the public should know that in the strongest coffee they have a powerful remedy at hand to resuscitate persons who are suffering from immoderate drinking or too free use of opium. In the North-west Gallery the public may observe several fine specimens of theine and caffeine, and one which deserves investigation. It is stated by Dr. Gardner to be made from the coffee leaves, roasted specimens of which are displayed. We took two or three leaves from our coffee plant and roasted them, and tasted the infusion. In our judgment the experiment did not appear to be promising, yet we should be sorry to dismiss the question of their utility in so summary a manner, and should delight if Dr. Gardner could prove that the leaves will add to the comforts of the poor. Connected with coffee, we may state that Mr. Snowden has shown samples of cleansing and purifying the coffee berry previous to roasting and grinding.

Messrs. Saunders and Gatchill have shown chicory in all its stages. This detestable stuff is principally used by dishonest traders for the purpose of making the public believe that they sell cheaper than their neighbours. It is the dried root of the wild endive which is employed, and is now much grown in England, France, Germany, &c. There is an import duty upon the foreign produce, whilst that grown in England is not subject to the excise laws. For this reason the vendor gets the whole benefit of the impost; and as the farmers are always screwed to the payment of the highest rent which they can bear, the landlord gets the ultimate benefit of its sale. The use of this nasty adulterative is so extensive, that chicory itself is now enormously adulterated by various other roasted substances, and, whilst landowners are benefited thereby, there is no immediate prospect of any abatement of the nuisance, unless, indeed, the publication of the name of the dishonest trader by the *Lancet* shall induce the public to leave the shops of all those who thus cheat their customers.

It is a curious fact that both tea and coffee owe their properties to the presence of the same alkaloid, as *theine* and *caffeine* are identical in composition, and are highly nitrogenised products. The delight which English people take in tea and coffee renders both important articles of commerce, and both are well represented. In the Chinese department our readers will have an opportunity of inspecting drawings of the different processes employed in the manufacture of tea, from the planting of the seed to the packing of the chests, and a very extensive series of genuine and factitious teas are exhibited of every class. The green tea and black tea are different plants, as may be seen at Messrs. Loddige's, Kew Gardens, and even in other nursery-grounds. Perhaps we might suggest that some who have plants to spare would send an example of each to place beside the prepared teas, as it would add much to their interest. The Assam Tea Company have contributed various samples of tea as cultivated by them in India, and which have at any rate a very excellent appearance. The exact operation of tea on the system is not known, but it is manifest it exercises considerable influence over the functions of the nervous system. Some persons cannot sleep a wink all night after a cup of strong tea, and there can be no question that it supports, in other instances, the action of the brain, and takes off the sense of fatigue. On the shilling days numbers may be seen, after the fatigues of the day, revivifying their powers by a cup of tea. The immoderate use of this beverage destroys the tone of the stomach, and predisposes to cramps.

Chocolate is a vegetable food not nearly as much used in England as in our neighbouring countries. It is prepared from the nut of the chocolate tree, which may be seen at Kew-gardens in high perfection. Messrs. Fry and Son, of Bristol, have sent specimens of the leaves, flowers, and branches of the tree which yields the nuts. The nut consists of a large quantity of oily matter, and a nitrogenised principle very similar to theine. Amongst the machines in motion, a model of an apparatus for grinding and preparing it is shown, and those who walk down Holborn may see the real apparatus in action. The French and most foreigners make numerous bon-bons of this material.

The Paris company has sent many specimens of chocolate, mixed with various materials. Some are flavoured with vanilla, the seed-pod of a species of orchid, which was shown last week at the Botanic Gardens in the fresh state, and is also exhibited in the Crystal Palace, in the department for the colonies, and also in several chocolate cases, in the dried state.

We suppose that we must class the tobacco amongst articles of food. It is procured, as all our readers know, from a plant which grows freely in our gardens, but which does not here yield so potential a product. Perhaps, those who employ this pernicious weed are but little aware how poisonous is the substance with which they are dealing, as a very small quantity will destroy life if taken into the stomach; and it is so powerful and uncertain a remedy, that but very few medical men dare to employ it. It is used, nevertheless, in three ways—either as a substance to be chewed, a powder to be snuffed up the nose, or the vapour which is inhaled during burning is allowed to come in contact with the mucous membrane of the mouth and fauces. The use of it is said to destroy the sense of hunger under intense fatigue, and to serve as a stimulus to the nervous system; but, physiologically, we must hold that its employment might for every purpose be abandoned. For this reason we feel very little inclined to record the numerous examples which are shown. Mr. Taylor has shown tobacco and snuff of English manufacture; and both in the English and foreign departments it is abundantly represented. Those who delight in the pipe, may find it of every shape and form; the exhibitors of the Zollverein contributing very large quantities, occupying the space of more useful works of industry.

If tobacco be classed as a food, opium has as much right to our attention. We may have drunkards, we may have tobacco-smokers in abundance, but, fortunately, our land is not extensively degraded by any very great employment of this pernicious drug. Nevertheless, we have seen the opium-eater; and that which is recorded of the Chinese is equally to be noticed of the European who gives way to the truly horrible habit of opium-eating. At first, the greater part of the time of the unhappy victim was spent in a dreamy sleepiness, when the party appeared half unconscious to all surrounding objects, and was revelling in the visions which appeared before his mind. By degrees, he spent more and more time in this state, till but a very slight interval of consciousness was daily allowed to him. At a later period, the entire muscular system wasted away. He could take no food, and, emaciated to a perfect skeleton, he fell a prey to the detestable vice; and we trust that we may be spared from ever witnessing another such example as that which we now record.

From the above account, our readers cannot fail to observe that the number of vegetal substances used for food have been abundantly represented; and yet, besides these, we shall hereafter have to describe numerous fruits and vegetable products which have also been contributed. The whole question of food is very largely represented, and it is much to be desired, that, when so many specimens have been collected from so many countries, at such great labour and cost, they should never be again dispersed, but that they should serve either as a nucleus for a museum, or that they may be added to that highly important and valuable collection which Sir William Hooker has already collected together in the national gardens of Kew.

LETTERS FROM LONDON

ON

THE GREAT EXHIBITION AND OTHER MATTERS.

BY PELEG E. WHEELER,

WITH AN INTRODUCTION BY BAYLE BERNARD.

(*Continued from page 605.*)

LETTER V.—TO DEACON BIGELOW, AGAR-HOUSE, COOK'S FERRY.

LONDON—THE MAMMOTH CITY—THE GREAT HUMAN EXHIBITION—THE MAJOR'S LODGING AND COMPANIONS—HIS SEARCH FOR THE CONSPIRACY—AND FIRST VIEW OF THE WORLD'S WAREHOUSE.

RESPECTED FRIEND,—

The Mammoth city! That's its title—that's its size, and nothin' under. I've got into it, that's sartin'; there's as little doubt of that, as that a shot is at the bottom if it's dropp'd into the sea. But the question I'm allers asking is, Am I likely to get out agin? I've been here a'most two days, and if I can find my way about, I wish I may be skinn'd. If I aint lost before to-morrow and cried for, it's a pity. I vow if I aint working as hard as a fly agin a winder-pane, or a field-mouse in a washing-tub, and for about as big a profit. If I aint as bother'd as a bullock that's going over a catyract, that gits whirl'd and whirl'd about head and tail alternately, till he's regular dumbfoozled—till his senses leave him first, and then—whish—and he goes arter 'em. For what's a man to do in a hundred miles of houses, which are as like as our milishy, and along streets, that are as crooked and full of crosses as existence? You remember the old story of getting along in the Genesee; how the soil lay so light there, you could travel under ground. Here I reckon it's tother way—you ought to travel over head; git along in a balloon that's jist a shave above the chimneys, with a rope ladder hanging ready to drop you down when wanted: that's the plan to steer thro' London, and to see it or I'm mistaken. You musn't go into it; you must git out on it, if you want to take its measurement. If you want to know a wilderness, you allers mount a hill; and I reckon London is suthin' like one, and as full of hungry critturs.

So it's no use my describing it. If my pen was double-action'd, and your brains were Ingy-rubber, and could stretch to any width, Deacon, 'twouldn't vantage you a cent. Put on all the steam I could, I couldn't give you half a notion on't. Couldn't paint its pictur, if I had a whole county for my canvas. What's the use of my telling you that London's as big as our bay, or all Rhode Island under kiver; that it aint so much one city as half a hundred glued together; a sorter congress capital, where there's about forty represented. The bones don't make the body—the carcass aint the soul; I've still got to show its natur, and how the dogs shall I do that, even sposing I was an orator, and had got the dikshunary in stock, and could deal like Dannel Webster in all the best six syllables! What's the use of my saying that it's a most partiklar good quilt, made up of a thousand patterns, and scarcely two alike in textur, shape, or colour; that it's got docks and ships at one eend, and palaces at tother; parks and gardens upon one side, and human pig-styes right agin 'em; that its river is like its streets—jist as dirty and as crowded; that its churches are a sight, and its bridges beat all natur; that it's got no eend of railroads, and carryges, and steamers; and is full of playhouses, and breweries, and shops, and lords and sogers? Or s'pose I sent a map on it, all the maps I've seen are miniturs, they don't give its look full-length! Or tell you to get a rule and compasses, and scale it on your pudding-board, or behind your parlor door: that's no sarvis nuther; you couldn't get its figger, tho' your compasses were to strain themselves. There's only this thing to be said, Deacon—it's a Mammoth! that's a fact.

And yet, a wonder as it is, Deacon, I reckon it aint the biggest. There's another one inside on it, that whips it out of countin'. You can't credit that, I daresay, but it's as sartin as the Bank. That wonder is the people! Yes, Deacon, it's the people—the onconceivable and everlastin' tide of livin human beings—that swells, and rolls, and pants, and rushes thro' the great canals of London. Talk of the Exhibition, Deacon—of man's products in the Park! I reckon here's a grander one; here's man himself to look at. Here's a human exhibition, such as airth has never witnessed—contributions of humanity from all quarters of the globe, which its great Maker would unite under one eternal temple. So, if I was stump'd to describe the body, what am I to say about the life in it? If I had no power to draw the features, how the plague shall I get the sperit? How am I to make out to you the crowd of heads, and legs, and riggings, that give such a sample of industrial energy in gitting along the streets? Turks and Parshuns, jest for instance, in their red caps and cow-tail tassels, and blue, jailor-looking coats, that grip 'em tight up by the throat, for all the world like their own governments; (not the easy fit of our'n, Deacon, that gives the limbs full play), and Chinamen as natral as if they'd walk'd out of a jar; and Afrykins as happy as are the Englishmen when the sun shines, and not ashamed to show their faces, where 'tant colour makes the man. And Frenchmen, on tother hand, who *are* ashamed of there'n, and kiver 'em up with whiskers 'till you see their eyes peep over 'em, like a feller's in a bear-skin who's sleighing in the snow. And to see this great stream a flowing, Deacon, coming down one of the big channels—Oxford-street or Fleet-street Cornhill, or the Strand—jist as though the Niagara had got upon a slant, and was boiling along in rapids, instead of pitching down a precipice. And then, conceive a feller trying his best to head it, putting his bows up d-ad agin it, like a Mississippi steamer; and if he can stem the tide at all, perhaps bursting up at last upon some of the plaguy snags and sawyers that he'll catch at every corner. It's the people is the wonder, Deacon. This grand reservoir of man, here collecting and intertusing, not to stagnate and breed miasmy, as in other public gatherings—as, for instance, we'll jist say in the dead sea of a camp—but a source of health and vigour, that will flow forth but to fertilise, to carry strength and freshness with it, and make the whole world a garden, that has so long been kept a desart. It's the people is the wonder, Deacon—it's the people, that's a fact!

But, I s'pose, you'd like to know where they all stow themselves at night—arter flowing about all day, how they eddy into bed? Well, as I larnt it in my own person, and saw another good result in it, I may as well jist tell you. I got to London in the evening, 'twixt eight and nine o'clock; and as soon as I touched the terminus, I clapp'd my bag under my arm, and went ahead to git a lodging, in a spot that I'd been told on by the waiter at the inn—a spot that by all accounts was a sorter London Focus, a place called Lester-square. It was lying, I was told, 'twixt the two great eends of London, and jist an easy distance from the World's Warehouse in the Park. But I guess 'twas more than that; I heard 'twas going to have a show that would almost whip the Exhibition—nothing short of a great globe, as big as the top of Boston State House, which was to sarve as another means of bringing all the world together; a globe so big and so exact, that a Russian or Mexican could find out his native place on it, and a feller from Wisconsin could clap his hand on his own clearing. So, making sure, of course, I should find Penobscot in full blaze, I saw the good on it at once, if half a million of visitors should go home by North Ameriky. So, says I, I see my port, I take my ticket for that station; and I got there safe enough. But how about my stopping? Well, I reckon that warn't so sartin: I found that so many fellers had all come to my opinion, that every house about the spot was already chock full to the roof; that there warn't one but had folks in layers, lying one above another, in a sorter strater fashion, and packed by hard compression. So, what was I to do, Deacon? When I asked for a hull room, I vow if they didn't stare at me as if I'd come from a museum. "What! a hull room to yourself!" says they. "Yes," says I, "myself, as I've left my wife at home." "Then you want the room of four," says they. "We don't let rooms, but corners, and we arn't got one to spare." And it warn't a great deal better when I asked for a single bed; I found that they were halved and quartered, and that fellers lay long and crosswise in them, like the timbers of a log hut. And 'twas wuss than that in some on 'em: chairs and sofys were all gone, and the only accommodation was the top of a kitchen dresser, or a hearth-rug on the stairs. So I begun to git ruther skeery. I vow if I didn't think I should have to camp out arter all, and git a lodging on a door-step or the soft side of a plank; when, arter knocking about till midnight, tacking here and there, and trying every channel, at last I sighted land. I found a house with a hull bed in it, and didn't stop to talk of terms, but run up to it full clip, to make sure on it at once. And when I had stretch'd out I found myself in a high latitood, jamm'd up agin the roof, and spread out on the same floor with four other furrin visitors—three Frenchmen and a German.

Well, I don't dislike the floor, Deacon, when the weather's gitting hot: first, because it prevents axydents. A man may git excited with either juleps or his country, and tumble out occasionally, as I've seen a feller do at home, from one of our old four-posters, when I vow if it didn't seem as if he was coming down a waterfall; and next, because this sleeping on a level with four others was, arter all, conformable to our great principle of equality. If men are to stand on the same footin', I don't see why they aint to sleep—why the principle aint as applicable to their backs as to their legs. And equality warn't all the fact; I guess it caused fraternity, as you'll see from what ensood. As soon as I was under hatches, I thought I'd see my company—see who were the folks I'd got amongst; and as the candle warn't put out, I was able to manage that by lookin' at one on 'em pretty straight, and at t'others sorter sideways, working my optics suthin' swivel fashion, like the bow-guns of a pirate. Well, I vow if I didn't think they were a lot of bears who had gone to hospital. What with their holler yaller jaws, and their everlastin' hides of hair, it warn't in natur' to expect speech from 'em, but jist a snuffle and a grunt; and I can't say that in the first instance I felt altogether easy—they stared so eternal hard at me, and kept their jaws jammed up so fast. So, as a hail, they say, costs nothin' and often keeps two crafts from foulin', I thought I'd jist accost 'em, though, at the same time, as they were furriners, and strangers to our language, I seed I must speak plain to 'em; mustn't come all Noah Webster, as though I was tacklin' a professor, but jist give 'em a little simple, easy, nat'ral taste of English. So says I, arter a cough or two, "I reckon that we've got a most particklar good accommodation—'taint a long way t'other side, I reckon, of being no ways onconvenient." Now that speech, you'll say, was plain enough, and as civil as a bar gal's; but whether they were dooberous or felt like what they looked, young bears that wanted poking, I guess they still held fast and only stared the harder. So I thought I'd try agin, and, says I, "If I may be so bold, I s'pose you've come to London to see the Exhibition—jest that—the Exhibition?"

Well, good Uncle Eldad, if that warn't the shot, no matter! If that didn't ile their jaws a bit, and clap a fresh hinge on their grinders, then I'm no judge of smith's work. You've seen a feller woke by firin', Deacon; jerk'd up out of his sleep by a cannon or a thunderclap; well, I reckon this go dittoed it. My last word was a peal to 'em! No sooner did they hear it, than they all jump'd up right an eend; all bolted up as sudden as a meat stick in a rat trap, or a dog with a musketeer. "Exhibition!" they sang out, "Wee, wee—yase, yase." And the feller in the further bed that I found out was a German, why he begun to "Yau" like a young donkey in good spirits. Well, all they wanted was a start, nothin' more than to be sot agoing, like old Abner Cook's "perpetual motion," that he was all his life inventin', and died just as 'twas finished. "Consarn the thing," said he, "all it wants is to git agoing, and then 'twill go for ever; nothin' on airth can hinder it." And so I thought 'twould be with them. If they hadn't a stock of tongue on hand, then I never seed a ham-shop! If they didn't all go a head jist like colts at quarter racing—pelt away the hull on 'em, all ahead, and none the hindmost. And, in order to make more way, they help'd their tongues with their heads and shoulders, and talked pretty considerable, I may say, with their whole bodies. So 'twas lucky, you see, for me that I'd been a 'spector in a dumb school, and larnt a little telegraphing, or I should have been altogether nonplush'd. Well, as soon as they were winded, I let out agin myself, and jist by way of introducing my opinions to 'em ginrally, I said I was an Amerykin—a citizen of our free and great Republic of the West—when, talk of galvanic batteries—talk of all the shocks that ever sot a frog or rabbit kicking, if you'd only seed 'em then, Deacon, only jist a look'd at 'em when that noos was fairly swallow'd! I vow if I didn't think at first that the whole tote was going to murder me! that I'd got among a lot of Mexicans who'd lost some land in Texas, and were a going to divide me in return, upon independent principles. They sprang bolt out of bed, and all giving the darndest yell, afore I could rise or holler had their arms as tight about me as if they were going to hoop a rum cask! "Hallo!" says I, "hallo!" and was just about to bellow, when what do you think it meant, Deacon? Why I swon it 'twarnt affection! If they didn't call me "brother," as I was a republican, and tell me they were such themselves, and more than that, all sociableists or socialists which, of course, explained at once their uncommon social manners. Well, arter this was over, and they'd wrung my fist half out of joint, back they went to bed agin, and started another race at talking, and about as quick again as tother one, setting up a roar that would have skeered a western clearin. When arter strainin' my ears an inch to see if I could catch suthin', I guess I went to sleep, and dreamt I was in a waggin, going over old Niagara. Now I want to know, Deacon, if this adventur hadn't a moral in it? If it didn't shew the good of bringing divers folks together? All thro' the little accident of our sleeping on one floor, here were the natives of three countries made good friends for life; and even s'posing we'd been enemies, I say the result would have been the same. Misfortun' makes men brothers, and arter passing the night we did, jamm'd up agin a roof with scarcely room to stretch or breathe, I want to know if we shouldn't have riz, and felt we'd all had our revenge!

But now to go ahead. You larnt from Uncle Enoch what was the noos I heard at Plymouth; the noos of the discovery that had jist been made in London—nothin' short of a grand conspiracy on the part of all the furriners, who owed a grudge to England, to burn down the mammoth city, and overturn the Government! If it warn't, may I be shot! A plan to take advantage of the occasion of the world's meetin' to open another exhibition, one of human spite and wickedness, and show the industrial energy of all the devils that are out of work. Not that it had come to a head; the mischief was still inside the egg, but it was within a day or two of hatching, when the young scorpions it was reckon'd would be ready to waddle out. So, of course, when this was told me, I didn't take to tooth-picks, didn't think of keeping off and rocking out the time till the explosion had taken place, and the scattering was over. I saw it consarned my character to be upon the spot, to help to put down the rumpus, or at least show I warn't engaged in it. So up I came, of course, and the first job upon my hands was to go out the followin' mornin', and make sure the noos was true; to take a survey of the hull city, without lettin' out my object, and whatever I saw suspicious, of course report it to the Government; and, as every one's aware of my strong observing faculty, a sorter forceps that I can poke into any hole or cranny, grip a fact and drag it out with it, I felt I was just the feller for this highly important dooty, and might possibly create a better feelin' twixt the countries. So, soon as I got breakfast, off I set upon this errand, to make a tour of the mammoth city, and see what there was about it that was both mighty and suspicious; and arter nine hours' steady walking, I s'pose I'd a right to speak, had some ginral sort of fancy, both of its spirit and its bulk. And what did I discover? In my day's hunt for conspiracy, what did I turn up? Why I rather think jist this, that I'd got into a workshop, and about the grandest in the world. From one eend of this everlastin' human wilderness to tother, from its north side to its south, in its streets, or docks, or houses, all I could clap my eyes on was one eternal heap of working; every feller doing suthin', and doing it full pelt. All were bilin' up with the same restless, busy spirit. All had got an eend, and all a motto, "Go ahead." Now I s'pose I needn't tell you that this widened my eyes a little. I thought that in point of industry we whipped the hull creation—beat everything in quickness, unless an antelope or telegraph. But I guess it's a mistake, Deacon. These London folks can size us; for they don't only work in working, but they work on their amusements. If you see a chap on horseback, he'll take ten times as much exercise as the crittur does that's under him; or the ladies in their coaches, it's jist the same with them, I guess they cannot be quiet, for s'posing their tongues are resting, dont they work their eyes about most terrible.

Well then, I s'pose you'll say there warn't no conspiracy at all. Well, I vow if I saw a mossel, unless 'twas gals and boys conspiring agin their fathers' pockets, or a wicked little widder agin a feller's liberty; or in a tavern I turn'd into, a sorter genral conspiracy agin all kinds of trouble, among the most oncommon merry varmints that ever jingled spoons together. And so, of course, you'll ask me—London being look'd at—how about what follow'd it? How about the next sight in the list of the world's wonders? The Warehouse of the World—that house that for a hull year I had thought and talk'd and dreamt about, as if it had been my own existence—that I had publicly pronounced to be the first business of the day—that I had proclaimed as the ruling object, and grand focus of our speshy—that house of glass and iron that was big enough to kiver all the samples of the world, and yet able to stand a shove from the universal shoulder—that hull sale sorter sky-light, over the great fraternal storeroom—that grand hot-house where the plants are to be moral ones, and amarantha, and the heat to be that of natur pouring straight down from the sky. How when I got up to it? Well, as to-day, Deacon, is the 30th, and to-morrow is the 1st; as it only wants twelve hours to the time the doors will open; as 'tis actually to-morrow that the Congress will begin, and the hull world will set to work shaking one another's hands; as the buildin' is all finished, and the goods are all arrived, and the flags are all up and waving, and the seats and centries are all fixed; as the hull city is in commotion, gitting ready for the morning, and about a million on 'em at least that won't go to bed at all; as there's nothin' doing right and left, but jist one stir of preparation—the Prince gitting up his speech, and the Queen gitting up her answer; the commissioners brushing up their manners, and the exhibitors their goods; the gals working at their dresses, and the sogers at their guns; and as, in addition to all this, I'm e'en amost used up, and caterwampussed with my walk, and for all that must see to my rigging afore I go to bed—git my blue coat out of wrinkle, and my calf-skin bootees stritch'd, and jest air a big frill'd shirt, and find my Mexican pearl brooch, which, if it didn't come out of an oyster, is, at any rate, as big as one—I'm downright compell'd, you see, to tell you all by the next ship.

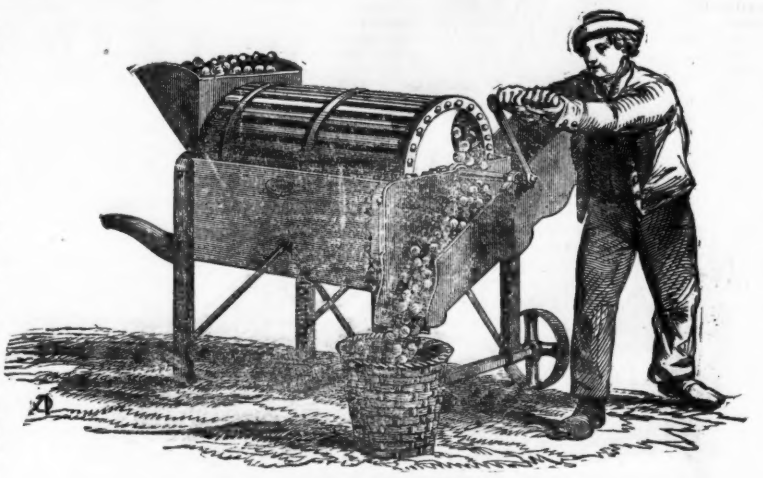
Your hopeful and affectionate,

PELEG E. WHEELER.

(To be continued.)

CROSKILL'S ROOT-WASHER.

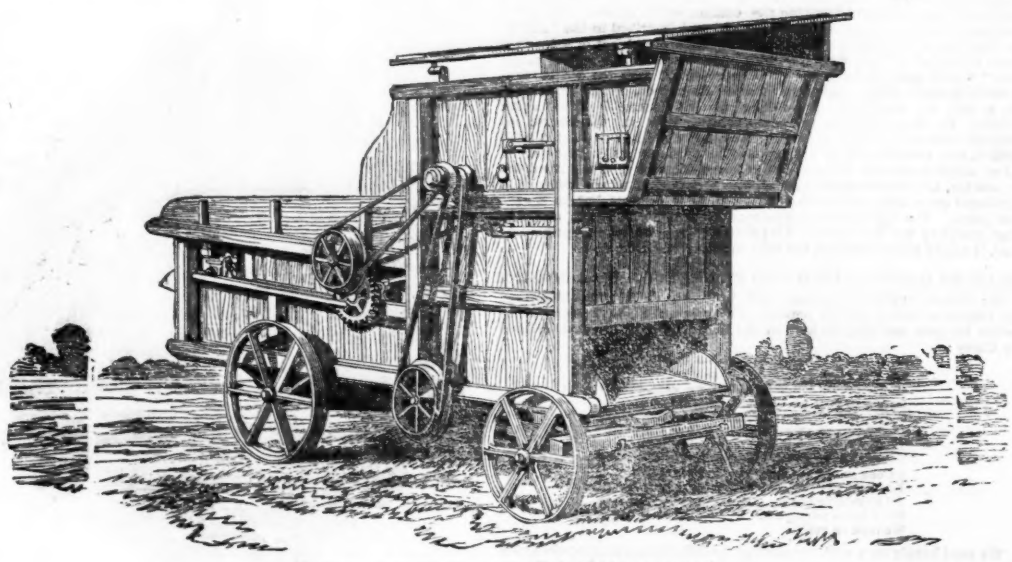
This is a very simple and convenient machine, in which the principle of the Archimedan screw, has been ingeniously applied. The roots are delivered into a hopper, and pass thence into an inclined cylinder, having two chambers, in the first of which they are confined and washed by turning the handle in one direction; when thoroughly cleaned, the motion is reversed, and they pass into the second chamber, which is constructed in the form of a spiral, along which they pass until they drop into a spout outside. It is well adapted for carrots, potatoes, turnips, and most other roots.



CROSSKILL'S ROOT-WASHER.

CLAYTON, SHUTTLEWORTH, AND CO.'S THRESHING-MACHINE.

This is an excellent specimen of the threshing-machine in its most improved form. The most recent improvement consists in the vibrating trough, which extends the whole length of the machine and straw-shaker, and has a reciprocating motion given to it by means of a crank. The great quantity of pulse, or colder, which drops through the bars of the straw-shaker, has long been considered very objectionable, inasmuch as it increases considerably the amount of labour in the barn, both at the time of threshing and also when going through the dressing-machine. By means of the vibrating trough, the whole, as it drops from the threshing-drum and straw-shaker, is caught, and passed over a riddle, under which the blast is directed, thereby effectually separating the corn, chaff, and pulse from each other, each being discharged into the place assigned for them; thus effecting a considerable saving in manual labour over the old method of threshing.



CLAYTON, SHUTTLEWORTH, AND CO.'S THRESHING-MACHINE.

DEANE, DRAY, AND DEANE'S DOMESTIC FLOUR-MILL.

This is an excellent little machine and does its work in a very superior manner, the flour being perfectly soft and fine as from a large mill. It also dresses and separates the flour, seconds, and bran at the same time, and in such a manner as we should not have expected in so small a machine.

DEANE, DRAY, AND DEANE'S DOMESTIC FLOUR-MILL.

Messrs. Deane, Dray, and Deane seem to have succeeded in producing that which has long been a desideratum, namely, a good and effective hand corn-mill, for occupiers of small holdings and emigrants.

CROSSKILL'S UNIVERSAL MILL.

This machine is likely to be a great boon to agriculturists, as a variety of operations are effected by it that usually require a separate machine for each. As a grinding mill, its powers seem to be unlimited; flints, coprolites, bones, &c. being reduced to a fine powder with apparently as much ease as barley or wheat. It also splits beans, bruises oats, crushes linseed, &c. Its action consists in two plates running in the same direction, and at the same velocity, but not on the same centre; hence it is sometimes called the Eccentric Mill. We have engraved a section through the grinding plates, to illustrate more clearly the principle of its action.

CROSSKILL'S UNIVERSAL MILL.

THE SLAVE IN THE MARKET. BY R. MONTI.

Signor Monti's veiled subjects we have already discussed at some length in our fourth notice on Sculpture. One of these figures, which, we must observe, is meritorious in treatment in other respects than the veil, we now engrave. It is supposed to represent a Circassian slave in the slave market at Constantinople, though these conditions are by no means all essential to its accurate description.

Touching the veil trick itself, which has attracted so much notice, we may mention that it is by no means new, though, fortunately, we have had but few previous examples of it. In the church of Santa Maria della Pietà, at Naples, are two remarkable instances of similar perversion of art. They are portrait statues, erected by the Prince Raimondo di Tansevero to his father and mother, about the middle of the last century. The female figure was wrought by the Venetian sculptor Corradini, representing the Princess under the emblem of Modesty. "It acquired great renown at the time," says Duchesne, in his notice of it in the "Musée de Peinture et de Sculpture," "from the singularity of seeing a face covered with a veil, light enough to show full shape of the body, which, unfortunately, is not handsome." Combined with this "singularity," now no longer

VEILED SLAVE IN A MARKET.—(MILANESE SCULPTURE.)

"UNA AND THE LION"—BY JOHN BELL.

singular, we remark concurrently in this work bad taste in the arrangement of the drapery, and other vices of detail, as the introduction of a garland lying across and breaking the outline of the figure. The other example referred to, which is also engraved and described in the "Musée de Peinture et de Sculpture," is a still more extravagant feat of art. It is from the chisel of Francesco Gueirolo, a Genoese sculptor, and is called the "Sinful man undeceived." "It represents," says the writer previously quoted, "the father of Prince Raimondo, partly enveloped in a net, of which he is seeking to rid himself. The artist alludes to the situation of that prince, who in the course of his life often let himself be carried away by vice; but who, at a later period, and enlightened by his genius (the good genius is represented as an angel in smaller dimensions), reverted from his errors. The net is in marble, as also the statue and all the accessories, which must have produced great difficulties in the execution, as it adheres but in a very few parts. The appearance of this coarse envelope contrasts with the high finish of the flesh parts. This difficulty overcome is the principal, and, it might almost be said, the only merit of the group."

PLASTER GROUP—PAOLO AND FRANCESCA. BY A. MONRO.

Mr. Munro, in this little group, seeks to realise the incident described by Dante, or rather by his heroine, Francesca, for she is supposed to relate her own sad story to him, in the following passage, as translated by Carey:—

> ——————— One day,
> For our delight, we read of Lancelot,
> How him love thralled. Alone we were, and no
> Suspicion near us Oftimes by that reading
> Our eyes were drawn together, and the hue
> Fled from our alter'd cheek. But at one point
> Alone we fell. When of that smile we read,
> The wished smile, so rapturously kiss'd
> By one so deep in love, then he, who ne'er
> From me shall separate, at once my lips
> All trembling kiss'd. The book and writer both
> Were love's purveyors. In its leaves that day
> We read no more.

We need hardly say a word to point out the difficulties which too obviously surround the treatment of such a subject in sculpture; at least, if it be attempted to represent *all* that the poet conceived of it. One point referred to in the passage, "the hue fled from our alter'd cheek," it is impossible to render through this medium, because it is a material *always* colourless; and even to convey the idea of strong emotion as conveyed through the eyes, is a thing which has never been attempted in the plastic art.

CARVED PICTURE-FRAME.—TUSCANY.

Nevertheless, Mr. Monro, who is a young artist of very considerable promise, has produced a very pretty and graceful composition, though at the same time one which, costume, accessories, and all considered, would have been better adapted for a painting than a work in plaster. As regards expression, he has certainly accomplished a great deal—much more than we would have been prepared to expect: the face of Paolo is earnest and impassioned in the extreme; it tells of a devouring passion long pent up, now first revealing itself; that of Francesca confesses a reciprocity of feeling, but with a modest hesitating reserve, which is admirably true to the more delicate poetry of the situation.

UNA AND THE LION. BY JOHN BELL.

We give an Engraving of Mr. Bell's plaster group of "Una and the Lion," upon which we made some observations, not very favourable, in our second notice upon Sculpture. The reader may now judge for himself of the propriety of these remarks. As for Una, she is, comparatively speaking, nobody; the Lion, encircled with garlands of flowers, with a little bird perched upon his back, is the hero of the piece, and a rough-looking customer he is. It may be proper to add that this group is a copy, with additions and improvements, of one already favourably known to the collectors and admirers of porcelain statuettes.

CARVED FRAME. BARBETTI.

This is a very beautiful specimen of the wood carving of Signor Barbetti, of Florence. The birds, in high relief, are finished with extreme delicacy.

PSYCHE. BY P. FRECCIA.

This very pretty marble statue stands in the Tuscan room, where it is deservedly admired for its gracefulness of conception and delicacy of finish. We shall reserve further observations upon it at present, however, as it will be included in a general notice of the works of sculpture in the Italian department, in a future Number.

PLASTER GROUP—"PAOLO AND FRANCESCA."—A. MUNRO.

"PSYCHE."—FROM FLORENC.

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